

1 STATE OF MINNESOTA DISTRICT COURT
2 COUNTY OF RAMSEY SECOND JUDICIAL DISTRICT
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4 The State of Minnesota,
5 by Hubert H. Humphrey, III,
6 its attorney general,
7 and
8 Blue Cross and Blue Shield
9 of Minnesota,
10 Plaintiffs,
11 vs. File No. C1-94-8565
12 Philip Morris Incorporated, R.J.
13 Reynolds Tobacco Company, Brown
14 & Williamson Tobacco Corporation,
15 B.A.T. Industries P.L.C., Lorillard
16 Tobacco Company, The American
17 Tobacco Company, Liggett Group, Inc.,
18 The Council for Tobacco Research-U.S.A.,
19 Inc., and The Tobacco Institute, Inc.,
20 Defendants.
21 - - - - -

22 TRANSCRIPT OF PROCEEDINGS
23 VOLUME 45, PAGES 8636 - 8864
24 MARCH 23, 1998
25

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1 P R O C E E D I N G S
2 (In-chambers conference as follows:)
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(In-chambers conference concluded.)

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1 THE CLERK: All rise. Ramsey County
2 District Court is again in session, the Honorable
3 Kenneth J. Fitzpatrick presiding.

4 (Jury enters the courtroom.)

5 THE CLERK: Please be seated.

6 THE COURT: Good morning.

7 (Collective "Good morning.")

8 THE COURT: Counsel.

9 MR. BLEAKLEY: Thank you, Your Honor.

10 ADAM B. JAFFE

11 called as a witness, being previously
12 sworn, was examined and testified as
13 follows:

14 CROSS-EXAMINATION (cont'd)

15 BY MR. BLEAKLEY:

16 Q. Good morning, Professor Jaffe.

17 A. Good morning, Mr. Bleakley.

18 MR. BLEAKLEY: Good morning, ladies and
19 gentlemen.

20 (Collective "Good morning.")

21 Q. When we broke on Friday, I was asking you some
22 questions about the first prong, as you call it,
23 of -- of the conspiracy that you believe there
24 existed with respect to fundamental competition, and
25 that was the prong dealing with in-house animal

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8657

1 research. Do you recall that?

2 A. Yes.

3 Q. Now is my understanding correct that it is your
4 opinion that this prong of the conspiracy prevented
5 confirmation of the causation hypothesis? Is that
6 one of the -- one of the explanations that you gave?

7 A. I don't know if I used the word "prevention." I
8 think what I -- what I said was that it avoided a
9 situation in which there would be confirmation of the
10 causation hypothesis coming out of the laboratories
11 of the companies themselves.

12 Q. Okay. And it permitted the defendants to
13 "avoid," I think the term you used was, very large
14 research expenditures and efforts?

15 A. Yes.

16 Q. Okay. And it is your opinion that this prong of
17 the conspiracy did this despite the fact that the
18 defendants did do animal research through contracts
19 with outside research laboratories; right?

20 A. Yes.
21 Q. And despite the fact that defendants, at least
22 on some occasions, cheated and actually did in-house
23 animal research.
24 A. Yes.
25 Q. And I take it your view on this is also held
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1 despite the fact that there was animal research being
2 done by organizations other than the defendants
3 throughout this period of time; right?
4 A. Yes. As I explained in my testimony, I think
5 that the defendants' own documents made clear that
6 they thought it was important that smokers be
7 reassured and that that would be undermined if
8 confirmation causation came from the laboratories of
9 tobacco companies themselves.
10 Q. But there was in fact animal research being done
11 throughout this period of time by researchers other
12 than the defendants, too; wasn't there?
13 A. That's correct.
14 Q. Such as Dr. Wynder, for example.
15 A. Yes.
16 Q. And the National Cancer Institute.
17 A. Yes.
18 Q. And other organizations.
19 By the way, it's not unusual for American
20 corporations, American business corporations, to have
21 contract done -- or research done by contract with
22 outside research laboratories; is it?
23 A. In general American corporations do use contract
24 research; although, as I discussed the other day,
25 when it comes to research that is crucial for product
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1 development, it is much more common for it to be done
2 internally. And both the economic and management
3 literature on this subject and the company documents
4 explain why that's the case.
5 Q. And in fact, there are many very fine
6 independent research organizations in the United
7 States; aren't there?
8 A. There are fine research organizations in the
9 United States. But as we saw, for example, in the
10 American Tobacco document, the scientists at American
11 Tobacco felt very strongly that they were going to
12 get research that was of the kind that they needed
13 with the security that they needed if they did it in
14 house. Then they were very unhappy with the way they
15 had gotten that kind of research both from academic
16 researchers at the Medical College of Virginia, and
17 also from independent consultants that they'd used.
18 Q. For example, the Arthur D. Little Company in
19 Boston is a very fine independent research
20 organization; isn't it?
21 A. As far as I know, yes.
22 Q. And the Battelle Memorial Institute, that's
23 another very fine independent research organization;
24 isn't it?

25 A. I don't have any knowledge of that.
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1 Q. Well you've heard of the Rand Development
2 Corporation; haven't you?
3 A. Excuse me?
4 Q. Rand Development Corporation.
5 A. There is --
6 If that's the Rand Corporation in Santa Monica,
7 I've heard of them.
8 Q. And that's a very fine independent research
9 organization; isn't it?
10 A. The Rand Corporation that I know of in Santa
11 Monica doesn't do biological research. Maybe we're
12 thinking of different organizations.
13 Q. Rand Development Corporation.
14 A. If it's not the one that I know of in Santa
15 Monica, then I don't know the organization that
16 you're referring to.
17 Q. In any event, you do know that there are many
18 fine independent research organizations in the United
19 States.
20 MR. GILL: Repetitious, Your Honor.
21 THE COURT: It's been asked and answered.
22 BY MR. BLEAKLEY:
23 Q. And you also know, do you not, that many
24 American business corporations often use independent
25 research organizations to help them in product
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1 development; don't they?
2 MR. GILL: This has been asked and answered
3 as well, Your Honor.
4 THE COURT: It's been asked and answered.
5 MR. BLEAKLEY: Your Honor, I did not ask
6 about product development before, I asked about
7 general research.
8 THE COURT: All right. You can answer it.
9 A. Yes, I believe to a certain extent companies do
10 use outside research to assist them in product
11 development.
12 Q. And indeed, many good ideas, many new products,
13 many innovations have been produced at least in part
14 through the efforts of independent research
15 organizations; haven't they?
16 MR. GILL: Objection, vague, Your Honor.
17 THE COURT: You can answer it if you know.
18 A. Well in general, as I talked about earlier,
19 companies do not rely on outside researchers
20 exclusively for product development. It is certainly
21 the case that in situations where a company is
22 engaged in product development in its own
23 laboratories, that where there are particular aspects
24 of that research that they feel they can more
25 effectively undertake through a contract with an
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1 outside party, they will -- they will do that. But
2 what's relevant for what we're talking about here is
3 a situation in which the fundamental core of the
4 product development research is not going on, and I
5 don't think in general that you would very often
6 observe private companies relying essentially
7 entirely on outside research for product development.

8 Q. Not entirely, but to a substantial degree.

9 A. Well I don't think I would even necessarily
10 agree with "to a substantial degree." And if the
11 basic core of the research program is something that
12 they cannot undertake in-house so that they don't
13 have even the capability within their own scientists
14 to understand what's going on with the research, to
15 understand its implications and to evaluate it, I
16 don't think most companies in America would feel that
17 that was a good position to be in with respect to
18 product development.

19 Q. In fact, one of the promising ideas that was
20 being explored by one of the defendants in this very
21 case was substantially the result of work being done
22 by that company with an outside research laboratory;
23 wasn't it? The XA project at least?

24 A. Yes, it's true that the palladium catalyst with
25 the nitrate palladium process was developed largely

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8663

1 through the efforts of A. D. Little in Boston,
2 correct.

3 Q. Arthur D. Little in Boston, which is a very
4 fine, highly reputable research organization; isn't
5 it?

6 MR. GILL: It's been asked and answered,
7 Your Honor.

8 THE COURT: You can answer it again.

9 A. I -- I already said it was.

10 Q. Professor Jaffe, can you honestly say that the
11 fact that the defendants used contract annual
12 research instead of in-house research exclusively was
13 of sufficiently low quality that it prevented
14 confirmation of the causation hypothesis?

15 A. I don't think I said that the primary reason --

16 First of all, I didn't say it prevented
17 confirmation of the causation hypothesis, and second
18 of all, I didn't say it was because of the low
19 quality. What I said was that the almost exclusive
20 avoidance of in-house animal research avoided a
21 situation or substantially avoided a situation in
22 which confirmation of the causality hypothesis came
23 from the labs of the tobacco companies and that the
24 companies themselves believed that that was
25 important.

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1 Q. And can you honestly say, Professor Jaffe, that
2 the fact that the defendants used some contract
3 animal research permitted them to avoid very large
4 research costs?

5 A. Well the only information I have about the

6 magnitude of the research costs is the information
7 you talked about that came from the interrogatories,
8 and I would certainly say that the amount of money
9 that they spent based on those interrogatories looked
10 at in the context of the problem they faced in the
11 size of the industry, they did avoid very large
12 research costs, yes.

13 Q. Is it your testimony that the defendants spent
14 less money because they did animal research through
15 contracts rather than in-house?

16 A. I'm not saying that any particular work they did
17 was cheaper because they did it through contracts
18 than in-house, but what I'm saying is that because
19 contract research was inherently far less effective
20 for the reasons we've discussed several times now,
21 they did far less of it than the amount of research
22 that they would have done in their own laboratories,
23 probably in conjunction with additional contract
24 research, if they had been pursuing the competitive
25 objective of creative destruction rather than having

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1 it held back by the limitation on in-house research.

2 Q. How do you know that?

3 A. I know that based on the economic analysis that
4 I've performed and the company documents that we've
5 looked at. And we've -- we've discussed this over
6 the last several days. The incentives were there.
7 We look at the industry, we look at what the people
8 in the industry understood were the incentives, we
9 look at the programs proposed by people like Dr.
10 Wakeham, which he clearly understood to be of
11 tremendous competitive significance, and we look at
12 the economic stakes, and I think it's clear that the
13 industry that we've seen, the four decades of history
14 that we've seen is very different from the four
15 decades of history that would have proceeded if the
16 fundamental forces of competition hadn't been
17 suppressed.

18 Q. Let me ask you this, Professor Jaffe: If the
19 defendants want to -- wanted to avoid confirmation of
20 the causation hypothesis and they wanted to avoid
21 very large research costs, why did they choose a
22 conspiracy that was limited to in-house animal
23 research?

24 MR. GILL: Your Honor, assumes facts not in
25 evidence. There's no testimony that the conspiracy

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1 was limited solely to this.

2 THE COURT: Well you may answer that.

3 A. Well I think that a collusive agreement is
4 inherently an attempt to suppress behavior that the
5 individual companies would like to undertake. And
6 when firms in an industry are attempting to collude,
7 they -- they draw the boundaries of that agreement in
8 the way that they think, given the circumstances that
9 they face, is most likely to succeed. And they may
10 have felt that an agreement to completely shut down

11 the research process, including contract research,
12 was something that they weren't going to be able to
13 enforce and that it wasn't going to work, and so they
14 did it as best they could.

15 But I don't -- I don't think that it's necessary
16 for my analysis to try to figure out exactly why they
17 constructed it the way they did.

18 Q. Let's talk about the second prong of the
19 conspiracy that you have expressed the opinion the
20 defendants engaged in, and that is the so-called
21 reassurance suppression conspiracy. If I'm using the
22 wrong terms to describe it, you correct me. That is
23 what you called it; wasn't it?

24 A. Yes.

25 Q. Now you don't have a document, like those

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1 documents that you referred to in connection with the
2 first prong, you don't have that gentlemen's
3 agreement document here; do you?

4 A. No, I don't think that's correct. I think the
5 Hill & Knowlton documents, for example, describe the
6 fact that the companies understood that their own
7 competitive practices were contributing to the health
8 problem as perceived by the companies, and it also
9 lays out that they needed to reach agreement as to
10 how all of them were going to respond to unfavorable
11 research reports as they evolved. And so I think
12 that that is basically laying out the agreement,
13 or -- or, among other things, it's describing that
14 component of the agreement.

15 Q. Did you find a document that said we agree to
16 suppress research?

17 A. Excuse me?

18 Q. Did you find a document that said we agree to
19 suppress research?

20 A. I don't believe I've seen a document that
21 contains that phrase.

22 Q. You basically inferred the existence of such a
23 conspiracy from your review of all of the documents;
24 right?

25 A. I don't think that's correct. I certainly saw

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1 documents that talked about agreement, I saw
2 documents about suppression, I saw documents about
3 solving the problem that was created when we got into
4 a competitive dog fight. All of those things are
5 talking about agreement, even if they didn't contain
6 the phrase that was in your previous question.

7 Q. In any event, you inferred the existence of a
8 conspiracy from these documents; did you not?

9 MR. GILL: It's been asked and answered,
10 Your Honor.

11 THE COURT: It's been asked and answered.

12 Q. All right. One of the elements or components of
13 this, as I understand it, is that The Council for
14 Tobacco Research, originally The Tobacco Institute --
15 Tobacco Industry Research Committee, was going to

16 engage only in what you described as basic research;
17 right?

18 A. I don't think I said that only. I said that one
19 of the ways that the CTR was used was that it was
20 presented as an organization that was going to seek
21 out the truth on smoking and health and was going to
22 communicate that, but that primarily what the
23 organization did, instead, was to engage in basic
24 research. I didn't say they did no research on
25 smoking and health. I think we saw in Dr. Glenn's

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1 testimony in the '90s, he said that there were 10 out
2 of some several hundred studies they had focused that
3 related to smoking and health, so they did do some of
4 that research. But I think primarily the research
5 that they did was far removed from the
6 smoking-and-health issue relating to the basic
7 science. And as we saw the other day, when they did
8 fund research that came up with results, for example
9 relating to addiction, they didn't treat this as
10 something significant that should be communicated to
11 the public when they summarized what it was they were
12 doing.

13 Q. You mean other than publishing it.

14 A. I'm sorry?

15 Q. That research was published; wasn't it?

16 A. I -- I didn't --

17 I said yesterday it was published. The
18 researchers published it and CTR included an abstract
19 in their report, but they didn't choose to highlight
20 it as something significant to bring to the attention
21 of the people reading the report of the scientific
22 director.

23 Q. Highlight. But the fact of the matter is that
24 research was published and available to the public
25 and available to researchers in the area to review

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1 and take into account; wasn't it?

2 A. I have answered that question several times.

3 Yes, the scientists published it.

4 Q. Okay. Now let's talk about basic research. Are
5 you saying that basic research is not relevant to
6 smoking and health?

7 A. I don't think I'm saying that basic research is
8 not relevant to smoking and health. I think what I'm
9 saying, which is articulated in the documents, is
10 that the basic research by focusing on the disease
11 generally rather than specifically on the connection
12 between smoking and health allowed the CTR to
13 maintain the position that nothing had been proven,
14 that more research was necessary and they were
15 working on it, but for the most part did not focus on
16 the kinds of research that would tend to lead to
17 direct confirmation of the causation hypothesis and
18 thereby really give smokers more information about
19 the health consequences of smoking.

20 Q. Your testimony is that the direct research -- I

21 mean the basic research that the CTR did -- I'm not
22 sure I got these words down right so you correct me
23 if I misstate them -- this basic research was not the
24 kind of focus that would tend to lead to confirmation
25 of the causation hypothesis. Is that your testimony?

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1 A. Well we're talking in generalizations here, and
2 I think there was a variety of things that came under
3 that -- that rubric, but in general I think that the
4 documents clearly show a strategy to research the
5 disease, to understand the fundamental mechanisms of
6 the disease, rather than to look at specifically the
7 link between smoking and health.

8 Q. Is it your testimony that research dealing with
9 the fundamental causes of disease cannot lead to a
10 confirmation or denial of the causation hypothesis?

11 A. I didn't say cannot. The fact of the matter is
12 the CTR has been doing the research it's been doing
13 for 40 some odd years now, and we still have Dr.
14 Glenn testifying that more research is necessary and
15 that causation has not been proven. I think that if
16 you look at the kind of research that was funded and
17 you look specifically at what the people both in the
18 CTR and in the companies said about why they were
19 doing the kind of research that they were doing, what
20 you find is that for the most part they were focusing
21 their attention on research that was not going to
22 lead to confirmation of the causation hypothesis.

23 Q. Well let me ask you this: Do you think the
24 Surgeon General of the United States would agree with
25 you that this basic research that the Council for

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1 Tobacco Research funded was not important?

2 A. I don't believe I said it wasn't important.
3 What I said was that it was the kind of research
4 which generally was not going to lead to confirmation
5 of the causation hypothesis.

6 Q. Do you think the Surgeon General would agree
7 that the basic research that The Council for Tobacco
8 Research funded was not important to smoking and
9 health?

10 A. I don't think I said that either.

11 Q. Do you think that the American -- the National
12 Cancer Institute would agree that the research that
13 was funded by CTR was important to smoking-and-health
14 issues?

15 MR. GILL: Your Honor, this line is beyond
16 the scope of the direct.

17 THE COURT: You may answer it.

18 A. Well you've just --

19 The only thing you've done now is you changed
20 who might agree. But as I said last time, I don't
21 think I said it wasn't important.

22 Q. Would you turn to Exhibit 17873, which is one of
23 the plaintiffs' exhibits that you discussed in your
24 direct testimony.

25 A. Yes, I have that.

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- 1 Q. Would you turn to page 48 of that document.
2 A. Okay.
3 Q. Page 48 has the two abstracts or summaries of
4 CTR funded research that you talk about in your
5 direct testimony; doesn't it?
6 A. That's correct.
7 Q. The first of which was "TASTE THRESHOLDS,
8 CIGARETTE SMOKING, AND FOODS DISLIKES," do you
9 remember that?
10 A. That's correct.
11 Q. And I believe your testimony was this wasn't
12 very relevant; is that right?
13 A. Well I think what it says -- what I said was
14 that it does not appear to be the kind of research
15 that is going to lead to confirmation of the
16 causation hypothesis.
17 Q. If you look down there at the bottom of that
18 abstract, it says "Other grantor: U.S. Public Health
19 Service?"
20 A. That's correct.
21 Q. So the U.S. Public Health Service obviously
22 thought it was worthwhile at least to co-sponsor and
23 co-fund this research; right?
24 A. The U.S. Public Health Service clearly thought
25 that this research was worthwhile for some purpose.

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- 1 Q. Well you're not suggesting they didn't know that
2 The Council for Tobacco Research was the other
3 co-sponsor; are you?
4 A. I am certainly not suggesting that.
5 Q. And when you said that The Council for Tobacco
6 Research did in fact fund some tobacco research,
7 specific tobacco research, you know that this
8 document is filled with abstracts of such research;
9 isn't it?
10 MR. GILL: Assumes facts not in evidence.
11 It's vague, unless counsel wants to be specific.
12 THE COURT: Okay. You may answer it if you
13 understand it.
14 A. I don't know that I would characterize this
15 document as being filled with that kind of research,
16 as you put it. It has a variety of abstracts, some
17 of which, I think, are closely related to the issue
18 of smoking and health, some of which are not. And I
19 think this is just one year's report. We've seen the
20 documents that describe the overall strategy, and
21 we've heard Dr. Glenn's testimony about where that
22 situation stands in the '90s.
23 Q. The other of the two abstracts to which you
24 referred during your direct testimony is one such
25 study; isn't it?

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- 1 A. Yes.

2 Q. That is, one involving directly tobacco.
3 A. Yes. I'm sorry, that's what I said
4 yesterday -- or the other day when I discussed it.
5 Q. The one entitled "ADDICTIVE ASPECTS IN HEAVY
6 CIGARETTE SMOKING;" right?
7 A. That's correct.
8 Q. Which was co-sponsored by the -- co-funded by
9 the American Cancer Society.
10 A. That's correct.
11 Q. But there are numerous other abstracts
12 summarized in this annual report of research directly
13 related to tobacco; isn't that right?
14 MR. GILL: Asked and answered, Your Honor.
15 THE COURT: It's been asked and answered.
16 Q. Now let me ask you this: Have you reviewed all
17 of the studies that are summarized in Exhibit 17873?
18 A. I'm sorry, the studies themselves?
19 Q. Yes.
20 A. No, I have not.
21 Q. Have you reviewed all of the abstracts that are
22 contained in this annual report?
23 A. I looked through them. I wouldn't say I read
24 all of them.
25 Q. How many studies funded by The Council for
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1 Tobacco Research have you read?
2 A. The studies themselves?
3 Q. Yes.
4 A. None.
5 Q. How many abstracts of studies co-sponsored by
6 The Council for Tobacco Research have you read other
7 than those contained in this Exhibit No. 11873?
8 MR. GILL: Seventeen thousand --
9 MR. BLEAKLEY: Sorry, 17873.
10 A. Probably a couple of dozen. In my review of the
11 CTR reports, particularly in the early decades, I
12 focused more on the summary and description of
13 significant findings that appeared in the front of
14 the report, which is what I think any lay person
15 would be likely to do rather than reading the
16 abstract.
17 Q. So your knowledge of the actual research funded
18 by The Council for Tobacco Research is limited to the
19 review of the summaries or abstracts contained in
20 Exhibit 17873 and a couple of dozen other abstracts.
21 A. No, I don't think that's correct. It includes,
22 for example, the memo that we discussed the other day
23 from Mr. Brady, the associate director of CTR, to the
24 scientific director describing what he thought CTR
25 was doing, it includes the meetings of the Executive
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1 Committee of the CTR, which describe what the
2 companies that funded and ran the organization
3 thought it was doing, and includes, as I've
4 mentioned, Dr. Glenn's congressional testimony a few
5 years ago.
6 Q. My question was your review of the actual

7 research, not comments on research, but the research
8 co-funded by The Council for Tobacco Research is
9 limited to these abstracts in this exhibit and a
10 couple of dozen others that you've read.
11 A. Well that was not your previous question. Your
12 previous question was what was my basis for my
13 conclusion. If you want to ask me what have I
14 reviewed that specifically describes the studies that
15 were conducted, I think that I have looked at the
16 summaries that are in the scientific director's own
17 report and the abstracts that you've mentioned.
18 Q. Do you know how many studies have been funded by
19 The Council for Tobacco Research over the roughly
20 40-year period of its existence?
21 A. I've seen a reference to that number; I think
22 it's in the thousands. I don't remember the exact
23 number.
24 Q. Do you know what institutions have been given
25 grants?

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1 A. I couldn't identify all of them. I know that
2 they have gone to many of the standard universities
3 and -- and other organizations that engage in
4 biological research, including basic research.
5 Q. Including Johns Hopkins University in Baltimore,
6 for example?
7 A. Wouldn't surprise me.
8 Q. And Yale University?
9 A. I would believe that.
10 Q. And Stanford University in California?
11 A. Sure.
12 Q. And Columbia University and Duke and the
13 University of Chicago?
14 A. Sure.
15 Q. And the University of Minnesota?
16 A. Sure.
17 Q. Did you know that there are 17 grantees in
18 Minnesota?

19 MR. GILL: Counsel is testifying, Your
20 Honor.

21 THE COURT: Sustained.

22 Q. Do you know how many grantees there are in the
23 state of Minnesota?
24 A. No, I don't.
25 Q. Do you know how many Nobel Prize winners have

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1 been granted --
2 A. Yes.
3 Q. -- funds for research by The Council for Tobacco
4 Research?
5 A. I believe Dr. Glenn testified there were three.
6 Q. Do you know whether any grants have been made to
7 people who are now high public officials in the
8 public health community?
9 A. Yes, I think Dr. Glenn mentioned Dr. Varmus.
10 Q. The current head of NIH, for example, National
11 Institutes of Health?

12 A. I know he had or has had a high position. I
13 don't remember his current position.
14 Q. Do you know whether or not some of these or any
15 of these research studies funded or co-funded by The
16 Council for Tobacco Research have been published in
17 peer-reviewed journals?
18 A. I believe that many of them have.
19 Q. Do you know whether any of them, other than the
20 couple that we referred to right here, have been
21 co-funded by the Public Health Service?
22 A. I believe that many of them have.
23 Q. And the National Cancer Institute?
24 A. Yes. Those organizations fund a lot of basic
25 research.

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1 Q. The American Heart Association?
2 A. I don't know one way or the other.
3 Q. Do you know whether any studies funded or
4 co-funded by The Council for Tobacco Research have
5 been cited in Surgeon General's reports on
6 smoking-and-health issues?
7 A. I believe they have.
8 Q. Do you know what percentage of all of the
9 studies cited in the 1964 Surgeon General's report
10 were funded by The Council for Tobacco Research?
11 A. No, I don't.
12 Q. You didn't look to see that?
13 A. It didn't occur to me to look, no.
14 Q. Do you know how many CTR-funded studies are
15 cited in the 1995 Food and Drug Administration
16 analysis regarding the Food and Drug Administration's
17 jurisdiction over nicotine-containing cigarettes and
18 smokeless-tobacco products?
19 A. I don't know, no.
20 Q. You didn't look in there to see what CTR-funded
21 studies might be cited by the Food and Drug
22 Administration?
23 A. No, I didn't.
24 Q. Did you make any effort to determine whether
25 there were any CTR-funded studies that came up with

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1 results that could be characterized as unfavorable to
2 the tobacco industry?
3 A. I've seen a number of CTR-funded studies that
4 came up with results that were unfavorable to the
5 tobacco industry.
6 Q. Incidentally, let me ask you to take a look, if
7 you would, at Plaintiffs' Exhibit 21804.
8 Did you find that, Professor Jaffe?
9 A. Yes.
10 Q. This is a Brown & Williamson document in which
11 there was a discussion of possibly reorganizing The
12 Council for Tobacco Research. Do you remember that?
13 A. Yes.
14 Q. Do you know whether or not the recommendations
15 for reorganization -- reorganizing The Council for
16 Tobacco Research were ever carried out?

17 A. Well it's difficult to tell from this document
18 exactly what they had in mind in terms of
19 reorganization. If a reorganization did occur, we
20 know, for example, from the notes of the Executive
21 Committee meeting in 1970 and Dr. Wakeham's
22 discussion following that regarding the fact that CTR
23 was for the benefit of the industry, that the basic
24 points that I made about the role that CTR played in
25 the conspiracy would have remained true whatever

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1 reorganization may have occurred here.

2 Q. Did you take the time to find out whether or not
3 the recommendation to reorganize The Council for
4 Tobacco Research was ever followed up on?

5 A. Well I'm not sure what you mean by "take the
6 time." I've looked at all the materials that I have
7 to try to determine from the 1950s through the 1960s
8 through the 1970s and '80s and into the '90s what CTR
9 was in fact doing at each of those time periods. I
10 don't think I have focused on the question of its
11 organization in terms of whether they changed, you
12 know, the number of associate directors they had or
13 anything else. It seems to me what was relevant for
14 my opinion is what they were doing.

15 Q. So you didn't take the time.

16 MR. GILL: Asked and answered, Your Honor.

17 THE COURT: It's been asked and answered.

18 Q. Do you remember Exhibit 21127? Would you take a
19 look at that, please.

20 A. Yes, I have that.

21 Q. You remember this was a document, the appendix
22 to the document, there's a summary of a meeting in
23 which, among other things, there is a discussion of
24 whether Mr. Spears of Lorillard was going to go or
25 should go to a meeting at the National Cancer

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1 Institute. Do you remember that?

2 A. Yes, that's correct.

3 Q. And you talked about that meeting and used it in
4 your direct testimony; didn't you?

5 A. The meeting of the Committee of Counsel, yes.

6 Q. And the discussion of whether Dr. Spears should
7 go to the National Cancer Institute.

8 A. Yes.

9 Q. Would you turn to page nine.

10 A. I don't have a page nine. What's the Bates
11 number?

12 Q. I'm sorry, page seven of the attachment.

13 A. Oh, page seven I have.

14 Q. You cited the language, the comment attributed
15 to Mr. Jacob, "He will not help us. If Dr. Spears
16 goes, he may stop us from attacking it later." Do
17 you remember that?

18 A. Yes.

19 Q. You didn't read the statement made by the next
20 gentleman, Stevens, "I am inclined to let them go."

21 MR. GILL: Contrary to the record, Your

22 Honor.

23 THE COURT: Well you can answer that.

24 A. I think we did read that sentence.

25 My discussion of this whole section was mainly
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1 to make the point that the whole notion that Dr.
2 Spears and his superiors at Lorillard would think
3 that the question of whether Dr. Spears should go to
4 a meeting is something that should be discussed with
5 the attorneys from all the other firms, so it's not
6 material to the relevance of this section that they
7 in fact made the decision to let him go. What was
8 relevant about this was the fact that people at
9 Lorillard felt that this was an issue that should be
10 decided by the industry collectively rather than by
11 individuals at Lorillard.

12 Q. Was this decision made by the industry
13 collectively?

14 A. Well we have at this meeting attorneys from a
15 number of the different firms, and -- and plus
16 outside attorneys, and it -- this document shows that
17 Mr. Stevens from Lorillard raised the issue for
18 discussion at this meeting to get their at least
19 advice if not concurrence as to whether or not Spears
20 should go to the meeting.

21 Q. Was the decision made that he shouldn't go?

22 A. I'm sorry, should or shouldn't?

23 Q. Was the decision made that he shouldn't go?

24 A. No. As you indicated and as I indicated, the
25 decision was made to let him go.

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1 Q. And who is Mr. Stevens?

2 A. Mr. Stevens is an attorney from Lorillard.

3 Q. So you cited this for the proposition that the
4 industry was discussing whether Mr. Stevens should
5 go -- whether Mr. Spears should go to this meeting,
6 but you acknowledge the fact that the general counsel
7 of Lorillard made the decision that he should; right?

8 A. Well he says, "I am inclined to let them go,"
9 after his discussion with the other attorneys, the
10 gist of which was that they would collectively be
11 better off if he goes than if he doesn't.

12 Q. Is that what Mr. Stevens says?

13 MR. GILL: Asked and answered, Your Honor,
14 previously.

15 THE COURT: You may answer.

16 A. Is what was Mr. Stevens said?

17 Q. That they decided collectively that he should be
18 permitted to go?

19 A. I didn't say that. I said he discussed it with
20 them and they all collectively expressed various
21 opinions. And then it says, as we've read several
22 times now, Stevens says that he's inclined to let him
23 go.

24 Q. He made the independent decision to let him go.

25 A. I would not characterize it as an independent
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1 decision.
2 Q. I see.
3 A. I would agree with you he says that he is
4 inclined to let him go, but he clearly made that
5 decision in the context of discussing this issue,
6 which really had nothing to do with the other
7 companies, with the attorneys from the other firms.
8 Q. You also cited the Auerbach smoking dog study as
9 evidence that supports your view that the industry
10 was attempting to suppress research; correct?
11 A. I think what I cited was the fact that there
12 was -- there was a series of meetings at CTR
13 involving people from CTR and people from the
14 industry and attorneys, the gist of which was to
15 organize criticisms of Auerbach and then also to
16 organize a campaign to prevent the National Cancer
17 Institute from further funding of Auerbach, and I
18 don't see how those activities are consistent with
19 the publicly stated purpose of the CTR, regardless of
20 whether people at CTR did or didn't think that the
21 Auerbach studies were good or not good scientific
22 research.
23 Q. Now the fact of the matter is, the Auerbach
24 research and the Auerbach study was not suppressed;
25 was it?

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1 A. Well it was not a fund -- it was not --
2 If we're talking about the first round, the
3 study with the beagles that found they had cancer,
4 that was not a study that was funded by CTR. They
5 were not in a position to suppress it.
6 Q. My question was: Was it suppressed?
7 A. It was not suppressed. I never said it was.
8 Q. And in fact it was published; wasn't it?
9 A. That's correct.
10 Q. It not only was published, it was widely
11 publicized in the press; wasn't it?
12 A. I don't think I know one way or the other how
13 widely publicized it was in the press.
14 Q. You didn't think it was important to know
15 whether or not this Auerbach study was widely
16 publicized?
17 A. It was not relevant. I haven't ever testified
18 that people other than CTR were unable to engage in
19 research and unable to publish that research
20 regarding the connection between smoking and health,
21 so I can't for the life of me see why the publication
22 and the dissemination of the Auerbach results has
23 anything to do with the opinion that I offered.
24 Q. Now do you know whether the National Cancer
25 Institute did or did not fund additional work by Dr.

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1 Auerbach?
2 A. I don't know, no.

3 Q. You didn't think that important to find out
4 whether or not the NCI --
5 A. Again --
6 Again, the issue is not was -- was Dr. Auerbach
7 able to do his -- his work, the issue was what was
8 CTR trying to do, what was the function of CTR as
9 perceived by people at CTR and the companies, and
10 it's very clear that at that moment they saw their
11 function as trying to prevent Dr. Auerbach from doing
12 further research. And I think in terms of what that
13 says about my opinions in terms of the function of
14 CTR, it's immaterial whether in fact they succeeded
15 in that effort to stop the NCI from funding him.
16 Q. Would it be immaterial even if the NCI concluded
17 on its own that further funding of Dr. Auerbach's
18 work wasn't a good idea, made no sense?
19 MR. GILL: Assumes facts not in evidence.
20 MR. BLEAKLEY: Doesn't assume facts. It's
21 a question, Your Honor.
22 THE COURT: You'll have to rephrase it.
23 BY MR. BLEAKLEY:
24 Q. Well let me ask you this: Do you know what the
25 ultimate medical and scientific judgment was on the
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1 Auerbach study?
2 A. I think as I explained in my previous answer,
3 even if NCI and everybody else ultimately concluded
4 that the Auerbach work was not good work, which I
5 haven't seen evidence to support, but even if that
6 were true, it doesn't change the fact that what we
7 saw the CTR doing was organizing its efforts to tell
8 another funding organization how to spend its money,
9 and I don't see, if -- if -- particularly, given the
10 documents from the companies which indicated that
11 although there were problems with the Auerbach work
12 and clearly it raised issues that needed to be
13 resolved, I would think if CTR was in the business
14 that it said it was in, which was to find out the
15 truth, they would have said, gee, we think there are
16 big problems with what Dr. Auerbach has done, so what
17 we need to do is replicate these experiments, we need
18 to encourage him to pursue this work so that it can
19 be -- those problems can be clarified and we can find
20 out what the answer is, and that's not what I saw CTR
21 doing.
22 Q. Are you testifying that the tobacco industry
23 could tell the National Cancer Institute what studies
24 to fund and what studies not to fund?
25 A. What I'm saying is what the document said, which
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1 was that Dr. Gori had agreed that he was going to
2 have a meeting with them -- Dr. Gori from the
3 National Cancer Institute -- and what the people from
4 the industry were going to do is going to organize
5 all the information they could to present to Dr. Gori
6 to try to convince him not to fund that research.
7 That's what the document says they were going to do.

8 I think it's a separate question whether Dr.
9 Gori ultimately paid attention to them or not.
10 Q. Okay. In any event, your opinion is that the
11 fact that The Council for Tobacco Research was
12 attempting to persuade the National Cancer Institute
13 that this was not the kind of research they should be
14 funding is evidence of conspiracy.
15 A. Well I think what it is, which is what I
16 characterized it as, is evidence that CTR was not
17 what it was presented as being. And I think when you
18 take that, then, in the context of all the other
19 evidence that we have, is part of the basis for my
20 opinion that CTR was a component of the conspiracy.
21 Q. Well let's turn to the third prong of the
22 conspiracy that you say existed to suppress
23 fundamental competition, and that is the conspiracy
24 not to warn unless compelled to do so.

25 You discussed only one document in connection
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1 with that, and that was Exhibit 13416. Would you
2 turn to that, please.
3 A. Yes, I have it.
4 Q. And this is a letter from the assistant
5 Secretary for Health of the Department of Health and
6 Human Services to the chairman of The Tobacco
7 Institute; right?
8 A. That's correct.
9 Q. And it refers to negotiations that the
10 Department of Health and Human Services was having
11 with the industry about the precise warnings that
12 were going to be -- might be adopted; right?
13 A. That's correct.
14 Q. Do you know the circumstances under which these
15 negotiations were taking place?
16 A. I'm not sure what you mean by "the
17 circumstances."
18 Q. Why were they --
19 Why were they negotiating?
20 A. Well I --
21 Why were they negotiating? You mean --
22 Q. Yes.
23 A. -- why was the Assistant Secretary of Health --
24 why did he need agreement of The Tobacco Institute as
25 to what the warning was going to be?

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1 Q. That was going to be my next question, but you
2 can answer that one.
3 A. Well I don't know the answer to that. I
4 wondered about that myself. I would have thought
5 that the Assistant Secretary for Health would just
6 recommend whatever agreement he or she thought was
7 the appropriate agreement from a public health point
8 of view, but it's clear from this letter that he felt
9 that this was an issue that had to be discussed with
10 the industry.
11 Q. You made no effort to find out why the Assistant
12 Secretary for Health was negotiating with the

13 industry over warnings?
14 A. Well again I don't know why that's relevant to
15 my opinion. All I was using this document for was to
16 characterize the industry position, which clearly is,
17 based on this document, a collective position that
18 warnings should meet the criteria in numbers one,
19 two, three, four, five and six there, which includes
20 the insistance that it retain reference to the
21 Surgeon General.

22 Q. So it made no difference to you why these
23 negotiations were taking place.

24 A. Well if you --

25 MR. GILL: Asked and answered, Your Honor.
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1 THE COURT: It's been asked and answered.

2 Q. Let's go on to the fourth prong of the
3 conspiracy that you believe existed, and that is one
4 dealing with the development of safe or safer
5 cigarettes. Okay?

6 A. Okay.

7 Q. Is it your testimony that the defendants --
8 strike that.

9 It isn't your testimony or your opinion that the
10 defendants conspired to refrain from attempting to
11 develop a safer cigarette; right?

12 A. I'm not saying that they agreed to undertake no
13 efforts with respect to a safer cigarette, that's
14 correct.

15 Q. Because we know that in fact they did make
16 efforts to develop so-called safer cigarettes; right?

17 A. Several of them did, yes.

18 Q. On more than one occasion.

19 A. Yes, I think that's true.

20 Q. Your testimony is that the conspiracy was to
21 refrain from -- and again, correct me if I don't use
22 the right words --

23 A. Uh-huh.

24 Q. -- to refrain from communicating to the public
25 the health benefits that might exist with respect to

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1 these products, and change it to make it your words.

2 A. Sure. I mean what I said was that the agreement
3 was not to competitively exploit a safer product in a
4 way that would rely on health concerns. But as I
5 talked about the other day, the fact of that
6 agreement, because it made the potential competitive
7 gains from such a product so much smaller, in my
8 opinion significantly reduced the incentives to
9 engage in research on safer cigarettes and thereby
10 reduce the efforts that were made in that direction,
11 although I have not testified that it eliminated them
12 entirely.

13 Q. Well, it's more than not limiting entirely.
14 The defendants did research on the development of
15 filter cigarettes since at least the 1960s; right?

16 A. Well I don't believe that that's directly
17 relevant, because they did research on filters, but

18 they never -- (clearing throat) excuse me -- made an
19 attempt, other than the ones we've talked about, with
20 specific products to figure out whether those
21 products with improved filtration were in fact safer.
22 They didn't do the kinds of, for example, studies
23 that were done with respect to XA and Premier to try
24 to show that filter cigarettes were in fact safer
25 products. So although that effort was, I believe,

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1 motivated by an attempt to respond to consumers'
2 demand for safer products, I wouldn't characterize
3 filter cigarettes as an attempt to develop a safer
4 cigarette that really was the kind of thing that in
5 terms of creative destruction would have been
6 expected.

7 Q. Is it your testimony that the defendants did not
8 attempt to develop proof that filter cigarettes were
9 safer than non-filter cigarettes? Is that your
10 testimony?

11 A. I haven't seen any evidence that they -- that
12 they did that.

13 Q. Is it your testimony that the defendants never
14 attempted to establish proof that low delivery
15 cigarettes were safer than non-low delivery
16 cigarettes? Is that your testimony?

17 A. Well again, I haven't seen any evidence of it.
18 And that's what Mr. Schindler said when he testified.

19 Q. I thought Mr. Schindler testified that they
20 didn't have any such proof. Am I wrong about that?

21 MR. GILL: Your Honor, if counsel could
22 show him the transcript, perhaps it would be clearer.

23 THE COURT: He can answer that.

24 A. I don't recall the distinction between what you
25 just said and what he said, so I don't know which it

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1 was.

2 If they didn't have any proof, it either means
3 they didn't look for it, or they looked for it and
4 couldn't find it, which means that -- that they found
5 evidence that they weren't safer, which would seem to
6 me to suggest that that would have been something
7 that they should have communicated.

8 Q. Well let's talk about that for a second.

9 Your testimony is that if they didn't find
10 proof, that means they weren't safer; is that your
11 testimony as an antitrust economist?

12 A. Well I guess what I'm saying is if they had done
13 studies -- which again I haven't seen the evidence
14 that they did -- but if they did a study to try to
15 determine whether filter cigarettes, for example,
16 were safer, you know, logically there are three
17 possible outcomes: They could have found they were
18 safer, they could have found conclusive evidence that
19 they were not safer, or they could have found that
20 they couldn't determine one way or the other whether
21 they were safer or not.

22 It seems to me if their intent in this process

23 was to respond to the consumer demand for a safer
24 cigarette and they were marketing a product that,
25 even if the result was that, gee, we tried, but we
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1 couldn't find -- we couldn't verify that these things
2 were safer one way or the other, I would think that
3 that would be information that they would want to
4 share with their customers.
5 Q. Isn't there a fourth possibility, Professor
6 Jaffe, and that fourth possibility is that the
7 Federal Trade Commission would not allow them to make
8 claims that the products were safer? Isn't that
9 right?

10 MR. GILL: Assumes facts not -- assumes
11 facts not in evidence, Your Honor.

12 MR. BLEAKLEY: It assumes nothing. It's a
13 question.

14 I'm sorry, Your Honor, I withdraw my --

15 THE COURT: May I rule --

16 MR. BLEAKLEY: I withdraw --

17 THE COURT: -- or are you going to rule?

18 MR. BLEAKLEY: No, Your Honor. I take it
19 back.

20 THE COURT: Why don't you rephrase it.
21 BY MR. BLEAKLEY:

22 Q. You know, do you not, that the Federal Trade
23 Commission has had the responsibility and authority
24 for regulating advertising of products sold in the
25 United States since well before the 1960s; isn't that

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1 right?

2 A. That is correct.

3 Q. And you also know that the Federal Trade
4 Commission has been active with respect to cigarette
5 advertising; don't you?

6 A. I think that's fair.

7 Q. And that the Federal Trade Commission has
8 frequently intervened with regard to cigarette
9 advertising; hasn't it?

10 A. It's done so on several occasions, yes.

11 Q. And you know that in order for the defendant
12 tobacco companies to promote any product as safe or
13 safer or may be safer, it as a practical matter would
14 be necessary to have the Federal Trade Commission let
15 them do it; isn't that right?

16 A. I think for them to present any information to
17 consumers, they would have to do that in a way that
18 the Federal Trade Commission would not deem to be
19 false or misleading. And what I was saying in my
20 testimony a minute ago was that any scientific
21 experiments that the companies had done which
22 generated information that was of relevance to
23 consumers in their decisions regarding the purchase
24 of products is information which, if they were intent
25 on competitively exploiting the opportunity that

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1 consumers' demands offered, they would have at least
2 tried to find a way to present that information,
3 factual, scientific, valid information, to the public
4 in a way that the Federal Trade Commission would not
5 deem to be false or misleading.

6 Q. Now, going back to the question I started with a
7 few moments ago, it is not your contention that the
8 defendants conspired to refrain entirely from
9 developing safer products; right?

10 MR. GILL: Asked and answered, Your Honor.

11 THE COURT: You can answer it again.

12 A. That's correct.

13 Q. And we know that in fact the defendant tobacco
14 companies have spent time developing filter and low
15 delivery products; right?

16 A. That's correct.

17 Q. And we know that the defendant tobacco companies
18 have spent many years developing methods for
19 ventilating tobacco; right?

20 A. That's correct.

21 Q. And for the use of expanded tobacco.

22 A. That's correct.

23 Q. And for treated tobacco.

24 A. That's correct.

25 Q. And for tobacco substitutes.

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1 A. They have done some work on tobacco substitutes,
2 yes.

3 Q. And charcoal filters.

4 A. That's correct.

5 Q. And cigarettes with no nicotine in them or
6 virtually no nicotine.

7 A. Yes, that's correct.

8 Q. So we know --

9 And cigarettes that have virtually all of the
10 particulate or tar removed from them, we know that,
11 too; don't we?

12 A. That's correct. But you've mixed together in
13 that list a variety of different things, some of
14 which I think, based on valid data, could be shown to
15 be responses and efforts to make the product safer,
16 but many of which I think it's very questionable
17 whether either the intent in doing it or the result
18 when it was done was to make the product safer.

19 Q. But you're not an expert on whether the products
20 were or were not safer; are you?

21 A. No.

22 What I've looked at are the documents that the
23 companies have themselves about what they think they
24 had accomplished, what they were trying to
25 accomplish, and how far they got.

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1 Q. Based on the selected review of the documents
2 that were provided to you by plaintiffs' counsel.

3 A. Well there's nothing selective about it. And

4 I've looked at as many documents as we could find,
5 and if you have documents that are from the rest of
6 the 30 million that you think show something else, I
7 would be happy to see them.

8 Q. There was nothing selected by it -- about them?

9 A. Well when you say "selective," you're implying
10 that there was some choice made to reach a particular
11 result, and all I'm saying is we looked at everything
12 that -- or we attempted to look at everything that we
13 could find that was relevant to my opinion, and I've
14 always assumed that if we missed something important
15 that would change the opinion, that I would see it
16 now.

17 Q. Well I meant to say "selected." Maybe it wasn't
18 clear.

19 A. Okay.

20 Q. My question is: And this opinion is based on
21 your review of the documents that plaintiffs' counsel
22 selected for you to review; isn't that right?

23 MR. GILL: Your Honor, that assumes facts
24 not in evidence based upon his direct testimony.

25 THE COURT: You may answer it.

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1 A. Well we've been over this several times. What I
2 did would indicate topic areas that I wanted to see
3 documents related to and asked the attorneys to
4 provide them, and I believe that they had every
5 incentive to provide me with all of the documents
6 that related to those topics because if there were
7 documents that were troublesome, it was better for me
8 to see them early rather than later.

9 Q. And you don't deny that the defendants have
10 spent hundreds of millions of dollars, if not
11 billions, in the effort to develop these products; do
12 you?

13 MR. GILL: Assumes facts not in evidence,
14 Your Honor.

15 THE COURT: You'll have to rephrase that,
16 counsel.

17 BY MR. BLEAKLEY:

18 Q. Did you not testify the other day that you
19 don't -- that you know the defendants spent
20 substantial sums of money on the efforts to develop
21 these products?

22 A. My understanding from the evidence that was
23 tabulated that we saw was that, based on
24 interrogatories, they spent something like three
25 billion dollars over a period of four decades. And

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1 for the reasons that I've talked about the other
2 day -- though any time you talk about a billion
3 dollars, I guess that sounds like a lot of
4 money -- given the resources they had and stakes that
5 they faced and the amount of money they spent on
6 short-term competition, 47 billion dollars on
7 advertising and other forms of promotions, that even
8 though three billion dollars may seem like a lot of

9 money, that in fact it is a relatively meager sum of
10 money given the stakes that they faced.

11 Q. And there should have been more.

12 A. I think if these firms were competing, there
13 would have been much more.

14 Q. Much more.

15 A. Much more.

16 Q. How much more?

17 A. Well I think, for example, if you look at other
18 industries, you look at typical decisions regarding
19 R&D investment, if they had spent, for example, half
20 what they spent on advertising, if they'd spent that
21 on research, that would have been eight or 10 times
22 as much as they actually spent, and that would still
23 be a small fraction of their sales and profits
24 compared to what many other industries invest in the
25 development of new products.

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1 Q. But you can't put a number on it; can you?

2 MR. GILL: It's been asked and answered,
3 Your Honor.

4 THE COURT: It's been asked and answered.
5 BY MR. BLEAKLEY:

6 Q. Now let's go back for a moment to the role of
7 the Federal Trade Commission. You're very critical
8 of the involvement of lawyers in scientific matters;
9 aren't you?

10 A. As a general matter?

11 Q. In this case.

12 A. Well we looked at certain specific contexts
13 where what was being discussed was whether research
14 was good research and what kinds of research to do,
15 and we also looked at some contexts where we had
16 decisions that involved a particular company that was
17 being discussed with other companies, and in those
18 contexts I expressed the opinion that that kind of
19 participation seemed to me to be more consistent with
20 a collusive agreement than with competition and in
21 the case of CTR, the stated purpose of CTR.

22 Q. Well let's talk about the specific involvement
23 of lawyers in decisions about what product safety
24 claims can be made.

25 Anything wrong with lawyers being involved in
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1 that?

2 A. No.

3 Q. Now let's talk about some of the specific
4 product development ideas that you referred to in
5 your direct testimony. One of the ones you discussed
6 was the Saratoga product.

7 THE COURT: Counsel, maybe we should take a
8 recess now.

9 MR. BLEAKLEY: Fine.

10 (Recess taken.)

11 THE CLERK: All rise. Court is again in
12 session.

13 (Jury enters the courtroom.)

14 THE CLERK: Please be seated.
15 THE COURT: Counsel.
16 MR. BLEAKLEY: Thank you, Your Honor.
17 BY MR. BLEAKLEY:
18 Q. Before the break, Professor Jaffe, we were -- I
19 had started to ask you some questions about the
20 fourth prong of the conspiracy you believe existed
21 that had to do with safe cigarettes, safer
22 cigarettes, and I had just started to ask you a
23 question about Saratoga. I don't actually have much
24 to ask there.

25 We discussed Saratoga briefly the other day;
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1 right?
2 A. Yes.
3 Q. And that is potentially a filter -- charcoal
4 filter cigarette that Philip Morris worked on many
5 years ago; right?
6 A. In the 1960s.
7 Q. In the 1960s.
8 And you testified, I believe, that you didn't
9 know why that product was never developed and wasn't
10 a successful commercial product; is that right?
11 A. Well I think what we talked about was Dr.
12 Wakeham highlighted the decision not to tell people
13 about the evidence they had regarding its
14 physiological superiority as one of the reasons for
15 its failure, and that's the only information that I
16 have.
17 Q. You don't know whether it was physiologically
18 superior or not; do you?
19 A. That's correct.
20 Q. You don't know whether it was or wasn't safer;
21 right?
22 A. That's correct.
23 Q. And then also briefly talked about a project at
24 BATCo called ARIEL. Do you remember that?
25 A. Yes.

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1 Q. And you know that BATCo had a product that it
2 experimented with back in the 1960s as well which it
3 called Project ARIEL; right?
4 A. That's correct.
5 Q. And you know that from the evidence that you --
6 that you saw, the documents that you read, that the
7 cigarette product tasted bad; right?
8 A. There was some discussion of that, yes.
9 Q. Do you know that whether or not the ARIEL
10 project was ever resurrected?
11 A. Well there was a development in the '80s at
12 BATCo which in -- in -- I don't know whether it's
13 precisely a resurrection of the ARIEL, but they did
14 do further work in the '80s on products that had
15 apparently some of the same concepts as were in
16 ARIEL.
17 Q. And that was called AIRBUS.
18 A. That's correct.

19 Q. Or AIRBUS.
20 But all you know about that again is what you
21 read in the documents that you reviewed; right?
22 A. That's correct.
23 Q. You do know that it was, at least to some
24 extent, B.A.T's -- BATCo's effort to respond to
25 Premier from RJR.

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1 A. Yes, I think some of the documents do indicate
2 that.
3 Q. And you also know from the documents you
4 reviewed that they had some fairly serious design
5 problems with AIRBUS.
6 A. I do recall that at some point they decided not
7 to pursue it very actively. I don't remember the
8 details.
9 Q. One of the problems was that the product, which
10 was like Premier, supposed to be a product that
11 didn't burn, was that it overheated; right?
12 MR. GILL: Assumes facts not in evidence,
13 Your Honor.
14 THE COURT: You can answer that if you
15 know.
16 A. I don't recall.
17 Q. You don't recall one way or the other.
18 A. That's correct.
19 Q. Do you recall whether there was also a problem
20 with a potential conflict with an RJR patent?
21 A. I think I did see some reference to that.
22 Q. Okay. Then we come to Project XA at Liggett.
23 Do you remember that? You testified to that about --
24 about that on your direct testimony; right?
25 A. Yes.

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1 Q. And the Project XA involved a cigarette in which
2 Liggett would add a substance called palladium.
3 A. That's correct.
4 Q. Treat the tobacco with a substance called
5 palladium; right?
6 A. That's correct.
7 Q. And palladium is a heavy metal; right?
8 A. That's correct.
9 Q. And you've testified that there came a point in
10 1979 when the project was referred to a legal project
11 team. Do you remember that?
12 A. I think it was '78, but yes.
13 Q. Sorry, 1978.
14 And that you didn't find any documents about the
15 Liggett palladium product after it was referred to
16 the legal project team; right?
17 MR. GILL: Assumes facts not in evidence,
18 Your Honor.
19 THE COURT: You may answer that.
20 A. No, I think the document that we looked at had
21 it referred to the legal product team in the summer
22 of '78, and then we saw some discussion in January of
23 '79, and then the last document that I saw was a

24 document in the summer of '79 that instructed
25 everyone to send all the materials relating to the
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1 project to the legal department.
2 Q. Okay. I stand corrected.
3 Now you do know, do you not, that the Liggett
4 palladium project was public knowledge?
5 A. Yes.
6 Q. You know that Liggett obtained a number of
7 patents on the palladium project; right?
8 A. Excuse me --
9 Yes, that's correct.
10 Q. And those patents, of course, were all published
11 as they're required to be by law.
12 A. When they're granted they're published, yes.
13 Q. And you know that the development of the
14 palladium product or project was reported in the
15 popular press; wasn't it?
16 A. That's correct.
17 Q. And was it --
18 Is it not the case that the palladium product
19 was also presented to the public health community?
20 A. Yes, I think there were some discussions between
21 some of the people involved and people in the
22 government.
23 Q. Do you know whether anyone in the public health
24 community ever endorsed the palladium product as a
25 safer product?

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1 A. I've seen no evidence that they did.
2 Q. Do you know whether they didn't endorse it?
3 A. Do I know that they didn't.
4 No, I guess I don't know that they didn't. I've
5 seen no evidence one way or the other.
6 Q. You have not seen any evidence that public
7 health authorities were concerned about the palladium
8 product?
9 A. That's not what I said. What I --
10 Q. Did you?
11 A. I'm sorry.
12 Q. Rather --
13 I'm putting too many negatives in my question,
14 professor.
15 A. Okay.
16 Q. But let's start over again. Did you see any
17 evidence that public health authorities were
18 concerned about the safety of this product?
19 A. Yes, I think I've seen some discussion of that.
20 I don't remember the details.
21 Q. One of the concerns was that the product, when
22 used, produced a substance called nitrosamines; isn't
23 that right?
24 A. Well there was a concern that is discussed in
25 the documents that all cigarettes in fact produce

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1 nitrosamines, that the use of additional nitrates in
2 the XA project -- or the XA product, which they found
3 was necessary to maximize the effectiveness of
4 palladium catalyst, there was a concern that the
5 increase in nitrates would increase the level of
6 nitrosamines in the smoke.

7 The documents I saw indicated that they thought
8 that, between the filter that they had designed which
9 got the nitrates back down to the level of normal
10 cigarettes and the other testing that they had done
11 to try to see whether there was any evidence of
12 increased activity, that overall there was -- there
13 appeared to be a net reduction in the tumorigenic
14 effects of the condensate.

15 Q. Just so we're clear here, nitrosamines are
16 carcinogenic themselves; aren't they?

17 A. That is correct.

18 Q. And you saw evidence in the files and records
19 that you reviewed that palladium alone was not
20 effective and that you had to have nitrate to make it
21 effective; didn't you?

22 A. It was not as effective without the nitrates
23 present, yes.

24 Q. And that those nitrates increased the amount of
25 nitrosamines produced.

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1 A. Well I think at the end of the day it wasn't
2 clear whether the product as marketed, with the
3 higher level of nitrates but with a special filter
4 that was designed to lower the nitrates to the level
5 of normal cigarettes, did or didn't have more
6 nitrosamines than other cigarette products.

7 Q. So you don't know one way or another whether the
8 product was in fact safer or less safe; do you?

9 A. I think what I testified was that the evidence
10 they had was that the so-called tar, the condensate
11 from the smoke, produced significantly reduced tumor
12 activity on the backs of mice, and that that was
13 biological evidence that was potentially relevant to
14 consumer choices. But I don't think I testified that
15 it was -- that I had a basis to determine that it was
16 a safer product.

17 Q. Or even less safe possibly; do you?

18 A. Well I think the data are what they are.

19 Q. Do you have an opinion of whether or not this
20 product would have been safer or less safe?

21 A. I do not.

22 Q. Would you turn to tab 24 in your book, please.

23 MR. GILL: Exhibit number?

24 MR. BLEAKLEY: Yes, it's MD000106.

25 Q. This is the 1971 Surgeon General's report.

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1 A. I have it.

2 Q. Would you turn to page 264.

3 Got 264 there in front of you?

4 A. Well I'm not sure.

5 Q. Take your time.
6 A. The one in the tab has just a few pages, and I
7 can't read it, so maybe I'll look at the big --
8 Q. It is a bad copy. I apologize.
9 A. I'll look at the big fat one. Maybe that's
10 easier to read.
11 Okay, I think I have 264. If you show me an
12 excerpt, I'll be able to confirm that. I can't
13 quite --
14 Q. Down toward the bottom of the page there's a
15 paragraph --
16 A. Yes, I have that page.
17 Q. -- that reads, "The nitrosamine compounds listed
18 are potent carcinogens affecting many organ systems."
19 A. That's correct.
20 Q. Now if you would turn to tab 12 where there
21 should be a copy of the 1981 Surgeon General's
22 report, hopefully a more legible copy. That is
23 Exhibit number GJ000114.
24 A. Yeah, I have it.
25 Q. This is the Surgeon General's report entitled
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1 "The Health Consequences Of Smoking: THE CHANGING
2 CIGARETTE."
3 A. Yes.
4 Q. Page 37. There's a little section there
5 entitled "Tobacco-Specific N-Nitrosamines."
6 A. Yes, I see that.
7 Q. And in the middle of the page there appears the
8 sentence, "These tobacco-specific N-nitrosamines may
9 play a role in the development of several types of
10 human cancer."
11 A. That's correct.
12 Q. Now various scientists have criticized the
13 possible use of nitrosamines in cigarettes as well;
14 haven't they?
15 A. The use of nitrosamines in cigarettes?
16 Q. Criticized the existence of nitrosamines in
17 cigarettes.
18 A. Yes.
19 Q. Including Dr. Dietrich Hoffmann.
20 A. I believe that's correct, yes.
21 Q. Has any physician or scientist or public health
22 organization called for the production of a cigarette
23 using palladium?
24 A. Not that I know of.
25 Q. Has any scientist or doctor or physician or
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1 public health authority urged Liggett or any other
2 company to place on the market a cigarette containing
3 palladium?
4 A. Not that I know of.
5 Q. Do you know what happened, what Liggett did with
6 its nitrosamine cigarette when it stopped the effort
7 to develop one in the United States?
8 MR. GILL: Your Honor, object to the
9 characterization of XA as a "nitrosamine cigarette."

10 MR. BLEAKLEY: Excuse me, I meant
11 palladium. I misspoke.
12 Q. The palladium cigarette.
13 A. Well --
14 Yeah, I guess based on some of the documents
15 that you sent over the weekend, it appears that they
16 made an attempt to license the technology to some of
17 the tobacco companies in Europe.
18 Q. Did they have any success?
19 A. No, they didn't.
20 Q. The next product that you talked about, I'm not
21 sure it was in that order, but another product that
22 you talked about was the Premier product developed by
23 R. J. Reynolds. Do you recall that?
24 A. Yes.
25 Q. And you know that RJR spent a considerable
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1 amount of money on the development of the Premier
2 product; don't you?
3 A. Well we --
4 I guess "considerable" means different things to
5 different people. I -- from the documents it's clear
6 they spent several hundred million dollars.
7 Q. And you know that RJR obtained a number of
8 patents on the processes by which this product would
9 be made; correct?
10 A. That's -- that's correct.
11 Q. Some 40 patents.
12 A. I saw a reference to 20, but 40 wouldn't
13 surprise me.
14 Q. And you know that the process of prosecuting and
15 obtaining patents from the United States Patent
16 Office is itself a very extensive and expensive
17 process; isn't it?
18 A. Yes. In the literature it's usually estimated
19 \$10,000 a patent.
20 Q. Now did I understand you -- and if -- if I'm
21 misstating this, please correct me again. Did I
22 understand you to say that RJR never made an approach
23 to the Food and Drug Administration or the Federal
24 Trade Commission about the Premier product?
25 A. I believe what I said was in the documents I
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1 reviewed I wasn't able to find any evidence that they
2 did.
3 Q. So in fact you don't know whether RJR ever made
4 an approach to the FDA or the FTC; do you?
5 MR. GILL: Asked and answered, Your Honor.
6 THE COURT: You may answer that.
7 A. I can only expect that --
8 I mean we saw, for example, a presentation made
9 to the board of directors in which the issue of FDA
10 and FTC concerns was raised. I would have thought
11 that if they had gone and actually discussed this
12 issue with the FDA or the FTC, that that would have
13 been mentioned. So I have inferred from the fact
14 that I've seen lots of documents that talk about

15 Premier and I've seen no evidence that they did it,
16 that they didn't.
17 Q. You infer that they did not go to the FDA or the
18 FTC.
19 A. That's correct.
20 Q. But you don't know.
21 MR. GILL: Asked and answered, Your Honor.
22 THE COURT: You may answer.
23 A. Well I can't know for sure because the documents
24 may have surprisingly not talked about the fact that
25 that happened. But it seems to me that that is not
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1 likely based on the evidence that I have.
2 Q. Do you know whether any public health
3 organizations expressed a view about the Premier
4 product?
5 A. When you say "public health organizations," you
6 mean government organizations?
7 Q. Private or government.
8 A. I do believe that some of the non-profit
9 organizations that are concerned about smoking and
10 health did express concerns about Premier.
11 Q. Tried to fight it; didn't they?
12 A. Yes, they did.
13 Q. Like the American Medical Association, for
14 example.
15 A. That may have been one of them.
16 Q. In fact the American Medical Association
17 asserted that RJR was making health claims about the
18 product; didn't it?
19 MR. GILL: Assumes facts not in evidence,
20 Your Honor.
21 THE COURT: Sustained.
22 BY MR. BLEAKLEY:
23 Q. Do you know whether the basis upon which the
24 American Medical Association opposed the Premier
25 product?

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1 A. Well my recollection is their primary objection
2 was that it was a nicotine-delivery device in their
3 view, and that for that reason the FDA should
4 regulate it. But I don't remember the exact details.
5 Q. Do you know whether the American Medical
6 Association argued that the product presents a
7 substantial threat to the public health?
8 MR. GILL: Your Honor, that assumes facts
9 not in evidence.
10 THE COURT: Sustained.
11 BY MR. BLEAKLEY:
12 Q. Do you know whether any government agencies were
13 opposed to the Premier product?
14 A. I haven't seen any evidence that federal
15 government agencies expressed any opposition to the
16 product.
17 Q. What about state agencies?
18 A. I've seen a reference somewhere along the way
19 that there were -- there was some opposition, but I

20 don't remember what it was.
21 Q. What about the Minnesota Department of Health?
22 A. That -- that may have been the state agency that
23 I saw reference to.
24 Q. In addition to these problems, you also know
25 that the Premier --

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1 MR. GILL: Object to the characterization
2 as "problems," Your Honor. There's no evidence for
3 that.

4 THE COURT: Rephrase the question, counsel.

5 MR. BLEAKLEY: Yes, Your Honor.

6 Q. You also know that the Premier product smelled
7 bad; don't you?

8 A. The documents do discuss the fact that there
9 were taste or odor problems, that smokers perceived
10 it to be very different from a traditional cigarette
11 in that respect.

12 Q. Taste and odor problems; weren't they?

13 A. I believe that's correct, yes.

14 Q. Also had problems keeping the product lit;
15 didn't they?

16 A. I have seen -- I'm sorry.

17 I've seen references to that, yes.

18 Q. And this was a product, one of the purposes of
19 which was to design a product that did not actually
20 burn; right?

21 A. Well I believe that Premier does burn, it's just
22 that the tobacco does not burn. It has a carbon
23 element which burns.

24 Q. Okay. It was designed so that the tobacco
25 wouldn't burn.

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1 A. That's correct.

2 Q. There would be none of what is called pyrolysis;
3 right?

4 A. Combustion or pyrolysis.

5 Q. Which is one of the theories about possible
6 adverse health consequences of smoking; right?

7 A. That's correct.

8 Q. And so Reynolds tried to develop a product in
9 which the tobacco doesn't burn; --

10 A. That's correct.

11 Q. -- right?

12 But one of the problems that R. J. Reynolds had
13 with the Premier product was people had difficulty
14 keeping it lit; right?

15 MR. GILL: Asked and answered, Your Honor.

16 THE COURT: He's answered it.

17 Q. Now, is it your testimony that R. J. Reynolds
18 did not make any advertising claims about the Premier
19 product?

20 A. No, that's not my testimony.

21 Q. Because you know that R. J. Reynolds did in fact
22 make advertising claims about the product; didn't
23 it -- don't you?

24 A. Yes. They tried to test market it and they

25 advertised it in the test market.

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1 Q. And among the advertising claims that R. J.
2 Reynolds made were those about which the American
3 Medical Association and the Minnesota Department of
4 Health complained; isn't that right?

5 MR. GILL: Assumes facts not in evidence,
6 Your Honor.

7 THE COURT: You may answer if you know.

8 A. I don't know that that's true.

9 Q. You do know, however, in the RJR advertising for
10 the Premier product they referred to the reduction of
11 controversial compounds from the product; don't you?

12 A. I believe that's correct.

13 Q. And that it --

14 They claimed that the smoke dissipates
15 instantly; right?

16 A. There was something about the lack of sidestream
17 smoke. I don't remember the exact wording.

18 Q. And that it results in a change in the
19 composition of cigarette smoke?

20 A. I don't recall.

21 Q. And some of their advertising referred to
22 Premier as the most significant advance in cigarette
23 history?

24 MR. GILL: Assumes facts not in evidence,
25 Your Honor.

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1 THE COURT: You may answer if you know.

2 A. I've seen some of the Premier ads and they had
3 various general claims. I don't remember whether
4 that particular phrase appears or not.

5 Q. Did you look at some of the RJR ads for the
6 product?

7 A. Yes, I did.

8 Q. And is it nevertheless your testimony that RJR
9 had supportable health claims for the Premier product
10 that it did not make?

11 A. I don't know that I would characterize them as
12 "health claims." I think what I said was that they
13 had supportable scientific evidence regarding reduced
14 biological activity of the products. Their outside
15 scientists confirmed that the tests that had been
16 done were valid and indicated reduced biological
17 activity in several forms, and that in my opinion a
18 company that had spent the hundreds of millions of
19 dollars that we discussed regarding Premier that
20 wished to exploit this technological development to
21 its maximum potential would have used that
22 information -- would have communicated that
23 information in some form to consumers.

24 As we've talked about, the FTC regulated the
25 form in which any kind of claims could be made about

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1 cigarettes, and they would have had to have found a
2 way to do it that was consistent with those
3 regulations. But since the underlying goal of the
4 FTC is to prevent claims that are false or misleading
5 and they had extensive scientific information, it's
6 my opinion that they could have at least tried to
7 find a way to present the valid scientific
8 information they had in a way that would not have
9 been deemed false or misleading.

10 Q. But because of the conspiracy that you believe
11 existed and despite the fact that they spent hundreds
12 of millions of dollars on this product, the only
13 thing they claimed in their advertising was that it
14 reduced controversial compounds, dissipated smoke
15 instantly, that it was the most significant advance
16 in cigarette history, and that it revolutionized
17 smoking.

18 MR. GILL: Assumes facts not in evidence,
19 Your Honor, and it's compound.

20 THE COURT: Rephrase the question.

21 MR. BLEAKLEY: I'll withdraw it, Your
22 Honor.

23 BY MR. BLEAKLEY:

24 Q. By the way, did you testify that all of the
25 biological studies that were conducted with respect

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1 to Premier were conducted by outside laboratories?

2 A. I think what I said was that it was a little
3 difficult to tell from the documents, but I saw no
4 evidence that any of them were done in-house, and
5 there was extensive discussion of tests that were
6 done by outside consultants.

7 Q. So in fact you don't know whether Reynolds did
8 in-house biological testing of Premier; do you?

9 A. I have seen no evidence that they did.

10 Q. So you don't know whether they did or didn't; do
11 you?

12 MR. GILL: Assumes facts not in evidence,
13 Your Honor, it's argumentative and repetitious.

14 THE COURT: I think -- I think he's
15 answered the question.

16 BY MR. BLEAKLEY:

17 Q. Now you also know that R. J. Reynolds has not
18 abandoned the basic product design that was involved
19 in the Premier product; don't you?

20 A. I have seen some evidence of their continuing to
21 work on related product designs, yes.

22 Q. Using some of the technology developed in the
23 course of the Premier project; right?

24 A. Well since -- since I wasn't shown documents
25 after 1994, it's a little hard to tell exactly what

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1 technology is being used, but it does appear to be
2 related to technology of the Premier.

3 Q. And you know that in fact R. J. Reynolds is
4 currently test marketing such a product; don't you?

5 MR. GILL: Objection, Your Honor, beyond

6 the scope of discovery.
7 THE COURT: Sustained.
8 MR. BLEAKLEY: May we have a side-bar on
9 this, Your Honor?
10 THE COURT: Yes.

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1 (Side-bar discussion as follows:)

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(Side-bar discussion concluded.)

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1 MR. BLEAKLEY: Could I have the question
2 read back, please.
3 (Record read by the court reporter.)
4 A. I do know that R. J. Reynolds is currently test
5 marketing a product called Eclipse. I don't really
6 know what technology it contained in the Eclipse
7 product because I wasn't allowed to see documents.
8 As I understand it, we were not produced documents
9 from the last few years in which Eclipse was
10 marketed.

11 MR. BLEAKLEY: Your Honor, I move to strike
12 the last part of that answer as non-responsive.
13 THE COURT: Well I think it's sufficiently
14 responsive. It will stand.
15 BY MR. BLEAKLEY:
16 Q. Now you didn't mention a product by -- developed
17 by Philip Morris called Next; did you?
18 A. No, I did not.
19 Q. But you know about it; don't you?
20 A. Yes, I do.
21 Q. You know that in fact Philip Morris marketed a
22 product called Next several years ago; don't you?
23 A. That's correct.
24 Q. And this was a product that contained virtually
25 no nicotine; right?

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1 A. It was a product that contained very little
2 nicotine, yes.
3 Q. And you know that product failed in the
4 marketplace; don't you?
5 A. That's my understanding, yes.
6 Q. You also know that Philip Morris has another
7 product that it is test marketing now called Accord;
8 don't you?

9 MR. GILL: Your Honor, object to questions
10 dealing with test marketing now.

11 THE COURT: The objection is sustained.

12 MR. BLEAKLEY: Your Honor, could we have a
13 side-bar on this? Promise it won't take any more
14 time than the last one.

15 THE COURT: Will there not be any more
16 questions than the last one?

17 MR. BLEAKLEY: Couple.

18 THE COURT: All right. You better come up.

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1 (Side-bar discussion as follows:)

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(Side-bar discussion concluded.)

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1 MR. BLEAKLEY: Could I have the question
2 read back.
3 (Record read by the court reporter.)
4 A. I've seen references to that in the newspapers,
5 yes.
6 (Document displayed on the screens.)
7 MR. GILL: Your Honor, excuse me, I wonder
8 if this could be taken down?
9 MR. BLEAKLEY: Sorry. Yeah.
10 (Display removed from the screens.)
11 MR. BLEAKLEY: Absolutely.
12 Q. I'm sorry, you said you've seen references to it
13 in newspapers?
14 A. That's right.
15 Q. And what do you know about it?
16 A. That Philip Morris is test marketing a product
17 called Accord.
18 Q. Do you know what its design features are?
19 A. I don't recall.
20 Q. Do you know whether it is, potentially at least,
21 a safer or medically acceptable product?
22 A. I don't know about medically acceptable. I
23 believe the newspaper accounts suggested that part of
24 the motivation was reduced health hazards, but I
25 really haven't focused on that as part of my opinion

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1 in this case.
2 Q. Okay. Fair enough.
3 So we know about Saratoga, we know about ARIEL,
4 we know about its successor AIRBUS, we know about
5 Premier, we know about the Liggett palladium
6 cigarette, we know about Eclipse, the successor to
7 Premier, Next, a little tiny bit about Accord, all
8 products in which the defendants have attempted to
9 develop safer cigarette products; right?
10 A. I think it's a fair characterization that the
11 products you just listed all were attempts, to some
12 extent, to develop safer cigarette products, yes.
13 Q. And we also know that in addition to that there
14 were efforts made to make tobacco substitutes.
15 A. Yes.
16 Q. Unsuccessful efforts to make tobacco
17 substitutes.
18 A. Generally, yes.
19 Q. And finally we know that in fact the defendants
20 have made and sold filter and low tar and nicotine

21 cigarettes over the last 40 years; right?
22 MR. GILL: Asked and answered, Your Honor.
23 THE COURT: Well you can answer it again.
24 A. Yes, defendants have made and sold filter and
25 low tar cigarettes -- low tar/low nicotine cigarettes
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1 over the last several decades.
2 Q. In fact we know, do we not, that the tar level
3 in the cigarettes has gone from an average of 35
4 milligrams per cigarette in the mid-1950s to about 12
5 milligrams per cigarette in the '90s?
6 A. I think that average is about correct. And we
7 also know from the company documents and -- and
8 numerous other documents that if there has been any
9 reduction in health consequences associated with
10 that, it is at best significantly less than the
11 proportional reduction in tar that has occurred.
12 Q. We know that from the company documents. Is
13 that your testimony?
14 A. Yes. I've seen a company document that
15 indicates that.
16 Q. And so your testimony is that these products are
17 not any safer based on your review of selected
18 company documents; correct?
19 A. I didn't say that. What I said was that if they
20 are any safer, the amount of improvement that they
21 represent is considerably less than proportional to
22 the measured tar reduction, and I have seen company
23 documents that discuss that.
24 Q. Okay. So you acknowledge that there are -- that
25 these are safer products; right?

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1 A. I didn't say that either. I didn't say that
2 either. What I said is they may be safer. There
3 have at points in time been indications they might be
4 safer. On the other hand, the documents as well as
5 public reports make clear that because of smokers'
6 compensation, the delivery to individuals is not
7 reduced as much as the rated delivery, that the low
8 tar products are typically smoked more intensely and
9 drawn -- the smoke is drawn deeper into the lung,
10 which may create different kinds of health hazards
11 or -- or more serious kinds of health hazards, and
12 that in addition their low tar products that contain
13 the many additives that aren't in the other products,
14 that as far as we can tell haven't been tested for
15 safety, and -- and thereby may create new health
16 concerns. So --
17 Q. Do you know whether they create new health
18 concerns?
19 A. What I know is that there has not been
20 established clearly the net benefit of these new
21 products, and everyone from company scientists to the
22 Surgeon General have expressed that these issues
23 exist.
24 Q. This is all based on your review of the company
25 documents selected for you by plaintiffs' counsel.

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1 MR. GILL: Object to that characterization,
2 Your Honor.

3 THE COURT: Objection sustained. Rephrase
4 the question.

5 BY MR. BLEAKLEY:

6 Q. Well have you done any independent research of
7 your own to determine whether or not these products
8 are or are not safer?

9 A. I'm not an epidemiologist or biologist, I'm an
10 economist, and what is relevant for me is what was
11 going on in terms of the competitive behavior of the
12 companies. If the companies had perceived these
13 products as their innovative response to the consumer
14 demand, then I would have expected that they would
15 have done the research to determine whether or not
16 they were safer, and if they could show that they
17 were safer, to utilize that information in the
18 marketing of the product, and what I've seen is that
19 they've reduced the tar and nicotine, they have
20 advertised those products as reduced tar and
21 nicotine, but they haven't made systematic efforts to
22 determine whether those products are safer. They
23 clearly understand the compensation phenomenon and
24 rely on the compensation phenomenon to produce
25 products that are lower tar but that smokers will

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1 still find satisfying, and the public health evidence
2 as summarized, for example the Surgeon General, is
3 that there is doubt about the significance of any net
4 health benefit that these products may have produced.

5 Q. Have you done any independent research of your
6 own to determine whether or not this so-called
7 compensation factor is important?

8 MR. GILL: Asked and answered, Your Honor.

9 THE COURT: You may answer that.

10 A. I have not gone out and done smoking behavioral
11 studies, no.

12 Q. Have you read any of the published literature on
13 compensation?

14 A. Yes, I've seen some of it.

15 Q. Have you read the article by Benowitz and
16 Henningfield?

17 A. I don't recall.

18 Q. Have you read articles in the published
19 literature suggesting that compensation is not a
20 significant factor?

21 A. Yes, I have.

22 Q. So you know that there are people out there who
23 don't think compensation is a significant factor;
24 don't you?

25 A. I have seen some studies that indicate that,

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1 yes.

2 Q. Including responsible researchers in the field
3 of nicotine and addiction; right?
4 A. As far as I know, that's true. However, again
5 as an economist, what matters to me is how the
6 companies are behaving, and the companies clearly,
7 from their own documents, not only perceived that it
8 occurred, but perceived that it was a phenomenon that
9 they were going to exploit in the development of
10 their products.

11 Q. Have you read the Dr. -- the testimony of Dr.
12 Samet in this case?

13 A. No, I have not.

14 Q. So you don't know what Dr. Samet said about
15 whether low tar and nicotine cigarettes are or are
16 not safer.

17 MR. GILL: Your Honor, no foundation based
18 on the last answer.

19 THE COURT: Okay. You may answer that
20 though.

21 A. It wasn't material to my analysis to know what
22 Dr. Samet said. As I explained, what was material to
23 my analysis was how the companies perceived these
24 products and how they competed with respect to them.

25 Q. It was not important to the opinions that you've

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1 been expressing here this morning whether the actual
2 scientific evidence is that low tar and nicotine
3 cigarettes are or are not safer? That wasn't
4 important?

5 MR. GILL: Argumentative, Your Honor.

6 THE COURT: You'll have to rephrase it,
7 counsel.

8 Q. Is it your testimony that whether or not low tar
9 and nicotine cigarettes are in fact safer is
10 irrelevant to your opinions?

11 A. I don't think I said that. I think that what I
12 said was that I didn't need to read Dr. Samet or any
13 other individual epidemiologist's testimony. For
14 example, I've looked at the Surgeon General's reports
15 which are intended by their nature to summarize the
16 general state of knowledge on these topics, and what
17 the Surgeon General report says is that while there
18 may be some benefits, particularly if smokers don't
19 compensate, that overall there is certainly
20 significant doubt about the magnitude of the net
21 health benefits from these products, and I think for
22 the purposes of my opinion regarding what competition
23 did or didn't occur in this industry, that that's
24 sufficient basis.

25 Q. Let me ask you a hypothetical: Let's assume

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1 that there was a document in the defendants' files
2 that says low tar and delivery cigarettes are not any
3 safer. Okay? Will you accept that --

4 A. Okay.

5 Q. -- hypothetical?

6 And in addition, will you except for purposes of

7 this hypothetical that this opinion was expressed by
8 a scientist at one of the tobacco companies?

9 A. Okay.

10 Q. Okay? And that it was expressed very strongly.
11 Okay?

12 A. Okay.

13 Q. But the actual scientific evidence is that the
14 product is safer. Would you just ignore that
15 evidence and rely only on the opinion expressed by
16 one employee of a tobacco company?

17 MR. GILL: Your Honor, there are no facts
18 in evidence to support the last predicate of that
19 hypothetical.

20 THE COURT: Okay. The objection is
21 sustained.

22 BY MR. BLEAKLEY:

23 Q. Is it your testimony that the Surgeon General of
24 the United States, in the Surgeon General's reports
25 that have been published, have not found there to be

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1 a reduction in the amount of disease attributable to
2 smoking as the result of low tar and nicotine
3 cigarettes?

4 A. Well my understanding is that what the Surgeon
5 General reports indicate, including the 1981 report
6 that the jury saw when Professor Dolan was
7 testifying, is that there is some evidence to suggest
8 that particularly compensation doesn't occur, that
9 there may be reduction in some diseases, but that
10 there are other concerns that potentially offset
11 that, and the magnitude of those concerns to some
12 extent is not known, so that overall it's not
13 possible to make a reliable determination that the
14 net health benefits are significant.

15 Q. Would a 20 percent drop in lung cancer rates be
16 significant?

17 A. Depending on the context, it might be
18 significant for some purposes.

19 Even if there were a 20 percent drop, it
20 would -- it would be very consistent with what I said
21 earlier, which was that if there was any benefit, it
22 seems to be far less than what would be suggested by
23 the aggregate reduction in tar levels that you
24 alluded to, which was far more than 20 percent.

25 Q. Is that important?

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1 A. Is -- is which important?

2 Q. Is it important that the reduction in risk is
3 less than the reduction in tar and nicotine
4 numerically? Is that a significant factor?

5 A. Well I only mentioned that because you suggested
6 that the reduction from, I believe, 40 to 12 or 35 to
7 12 was somehow indicative of a significant
8 improvement in cigarettes. I didn't suggest that.
9 But what I was saying was that if someone were to
10 suggest that the reduction in overall tar levels
11 connoted some kind of corresponding, very large

12 reduction in the hazard of cigarettes, then I think
13 it would be very relevant that the actual reduction
14 is apparently far less than proportional to the
15 measured reduction in tar levels.

16 Q. But in terms of the impact on health, it doesn't
17 make any difference whether there is a relationship
18 between the percentage reduction in tar and nicotine
19 and the percentage reduction in risk; does it?

20 MR. GILL: Your Honor, he just answered
21 that question. This is argumentative as well.

22 THE COURT: Okay. I think he answered
23 that.

24 MR. BLEAKLEY: Judge, I'm about to move on
25 to a new and a final topic.

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1 THE COURT: How long is your final topic?

2 MR. BLEAKLEY: Probably 45 minutes to an
3 hour.

4 THE COURT: Okay. We better recess for
5 lunch then, reconvene at 2:00 o'clock.

6 THE CLERK: Court stands in recess, to
7 reconvene at 2:00 o'clock.

8 (Recess taken.)
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1 AFTERNOON SESSION.

2 THE CLERK: All rise. Court is again in
3 session.

4 (Jury enters the courtroom.)

5 THE CLERK: Please be seated.

6 THE COURT: Counsel.

7 MR. BLEAKLEY: Thank you, Your Honor.

8 Good afternoon, professor.

9 THE WITNESS: Good afternoon.

10 MR. BLEAKLEY: Good afternoon, ladies and
11 gentlemen.

12 (Collective "Good afternoon.")

13 BY MR. BLEAKLEY:

14 Q. Professor Jaffe, is it your testimony that the
15 defendants spent all of this money and all of this
16 effort on attempting to develop safer cigarette

17 products but that they didn't really want them to be
18 successful?

19 A. No, that's not my testimony. I think that the
20 companies that spent the money that they did spend on
21 developing safer products did so because they
22 recognized the competitive potential that such
23 products offered and that they did hope that they
24 would be successful, but that they weren't willing in
25 that hope to go the last mile, which involved really

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1 exploiting the products in a way that would have
2 taken advantage of their real -- their real
3 superiority from consumers' point of view. So that
4 they -- they in some sense wanted to have it both
5 ways, they wanted to respond to the competitive
6 incentives they saw because they realized that the
7 potential is there, but they were -- they were ham-
8 strung in their ability to really fully exploit it
9 because of the agreement that they had.

10 Q. And that last mile, that exploitation of these
11 products, would have been to make safety claims for
12 them; right?

13 A. Well I think that what I said earlier with
14 respect to the specific products we talked about is
15 that the last mile would have been to utilize the
16 scientific information that they had to inform the
17 consumers about how these products really were
18 different than the products that were on the market.

19 Q. Well what difference would it make to a consumer
20 that the product was different unless it was also
21 safer?

22 A. Well I think what they could have said regarding
23 safety would have depended on the data that they had.
24 As we've discussed at some length, with respect to
25 the specific products that -- that were developed,

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1 there are some questions about exactly what they
2 could have claimed about those products, and one of
3 the things that I think I've been clear on is that
4 anything that they claimed would have had to have
5 been true. If they had reached the point where they
6 had developed a product that was unquestionably safer
7 or safe and that they had the scientific data to
8 support the claim in whatever form they chose to make
9 it, if they had the data to support it, then I
10 believe that they would have made those claims. The
11 exact nature of the claims they would have made would
12 have depended on the exact nature of the scientific
13 and technological results that they were able to
14 develop.

15 Q. And would you agree with me that you don't know
16 whether any of those products were unquestionably
17 safe or unquestionably safer; do you?

18 A. The products that were in fact developed, is
19 that what you're referring to?

20 Q. Whether or not --

21 The products that you say the defendants should

22 have exploited and gone the last mile with respect to
23 the consumers, you don't have any personal knowledge
24 that any of these products were unquestionably safe
25 or unquestionably safer; do you?

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1 A. I don't have any personal knowledge, and I
2 certainly don't have any basis from the documents to
3 say that any of them were unquestionably safe.

4 The documents certainly indicate with respect to
5 Premier, for example, significant scientific evidence
6 that they were less biologically active with respect
7 to a battery of tests that the scientists had --
8 had -- had undertaken, and I'm not in a position to
9 determine what kinds of statements about safety could
10 have been made based on those tests. But there
11 certainly was a significant amount of data which
12 indicated that, along relevant dimensions, the
13 product, based on those tests, appeared to be safer.

14 Q. Now let me turn to the economic impact of what
15 you have described as a conspiracy to suppress
16 fundamental competition.

17 You testified -- and again correct me if I don't
18 state this exactly correctly -- that the second
19 element of the analysis -- that is, the first step of
20 the analysis is whether the conspiracy unreasonably
21 restrained competition, the second element of the
22 analysis was the impact on the market, which must be
23 a significant economic impact. Is that right?

24 A. I think that's fair, yes.

25 Q. So it is necessary for the impact on the market

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1 to have been significant; right?

2 A. Yes, I believe that's correct.

3 Q. A minor and insignificant impact on the market
4 would not have anti-competitive consequences that
5 would be of concern to an antitrust economist; right?

6 A. Well I think what I said was to call something
7 an unreasonable restraint of trade, we look for a
8 significant economic impact.

9 Q. And you went on to say if this restraint had not
10 been in place --

11 And that's the conspiracy that we're talking
12 about here; right?

13 A. Yes.

14 Q. If this restraint had not been in place, we
15 would have seen a market for cigarettes in the United
16 States today that would have been significantly
17 different from the market that emerged under this
18 competitive restraint; right?

19 A. Well you appear to be reading from the
20 transcript. It certainly sounds familiar.

21 Q. And that is your opinion.

22 A. I -- I agree with that statement, yes.

23 Q. Okay. And we would have seen a significantly
24 broader variety of products available to smokers, and
25 they would also have had available to them the

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1 information necessary to make informed choices among
2 those different products in purchasing and smoking
3 them; right?
4 A. I couldn't have said it better myself.
5 Q. And finally, this would have been in a market in
6 which consumers would have had the information
7 necessary to make effective choices among those
8 products. And then you went on to say, "And this was
9 a significant contributing factor to health-care
10 costs in Minnesota."
11 A. I did say that.
12 Q. Okay. The bottom line of all of this is that
13 health-care costs were higher as the result of this
14 restraint or this conspiracy; right?
15 A. That's correct.
16 Q. And that if there hadn't been a conspiracy, they
17 wouldn't have been as high.
18 A. That's right.
19 Q. Okay. In Minnesota.
20 A. Well I think as I explained with Mr. Gill, I
21 have not looked specifically at the damages
22 calculations regarding Minnesota. What I have
23 concluded is that because of the significant impact
24 on the cigarette market that you just discussed, and
25 relying on the testimony of others that smoking does

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1 cause significant health-care costs, taking those two
2 things together I'm able to conclude that the
3 conspiracy was a significant contributing factor to
4 health-care costs in Minnesota.
5 Q. And you also know that the specific health-care
6 costs in Minnesota that are involved in this case are
7 Medicaid, a state medical assistance program called
8 GAMC, and Blue Cross insurance; right?
9 A. I do know that, yes.
10 Q. Okay. Now let me write up here the four
11 elements of this opinion, and I'll apologize in
12 advance for my writing; I'm not a professor, so I'm
13 not very good at this.
14 First was lower health-care costs. Okay?
15 A. First --
16 Q. First of the elements.
17 A. Okay.
18 Q. Let me write these down. Then you can tell me
19 whether you agree with them.
20 A. Fine.
21 Q. Okay?
22 Two is significantly different market, three was
23 significantly broader variety of products, and
24 finally, more information. At least that's my
25 shorthand. Now perhaps I should have put lower

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1 health-care costs down as number four, and that's
2 probably what was confusing you.

3 But you said there would be a significantly
4 different market; right?
5 A. I did say that.
6 Q. And there would be a significantly broader
7 variety of products.
8 A. Yeah. In my mind that's part -- three and four
9 are part of two. They're not really distinct from
10 two. But --
11 Q. Okay.
12 A. -- I don't disagree with having said all those
13 things.
14 Q. And more information, relevant information would
15 have been provided to consumers.
16 A. Right.
17 Q. And the result would be lower health-care costs.
18 A. Yes.
19 Q. Okay. Now let me ask you this: In order to
20 know whether or not in fact you would have a
21 significantly different market and significantly
22 broader variety of products and more information for
23 consumers and therefore lower health-care costs, we'd
24 need to know a number of things; wouldn't we? We'd
25 need to know what the answers are to a number of

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1 questions; wouldn't we?
2 MR. GILL: Objection, vague, Your Honor.
3 THE COURT: Do you understand the question?
4 A. Yes, we would need to know some things, yes.
5 Q. Okay. Would you agree with me that one of those
6 things would be whether or not this significantly
7 broader variety of products would be meaningful
8 different products?
9 A. Yes, I'd agree.
10 Q. Okay. Let me --
11 Another pack of cigarettes that's called X
12 instead of Y wouldn't be meaningful.
13 A. I agree with that.
14 Q. Okay. Meaningfully different products.
15 Secondly, we would need to know whether any of
16 these new products were safer; wouldn't we?
17 A. Yes.
18 Q. We'd also have to know, would we not, how much
19 safer?
20 A. No, I don't think so.
21 Q. What if they were only a wee tiny bit safer,
22 just an infinitesimal amount safer?
23 A. Well I think you'd have to know that within the
24 broader range of products there were products that
25 were significantly safer.

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1 Q. Okay.
2 A. But I don't think you would have to know in a
3 quantifiable sort of measurable terms how much safer.
4 Q. Okay. Significantly safer.
5 The farther down the board we get, the harder it
6 is to read my writing.
7 We'd also need to know who made these products;

8 wouldn't we?
9 A. Well we would need to know that these products
10 were offered by the defendants. I don't think we'd
11 need to know which ones specifically.
12 Q. That's a D -- I mean a Delta; that's supposed to
13 be for defendants.
14 A. Yeah, I got that.
15 Q. You understood that. Okay.
16 Sorry, I'm standing in front of this and
17 blocking the view of some of the jurors.
18 We would also need to know when in time these
19 meaningfully different, safer -- significantly safer
20 products could have been introduced; wouldn't we?
21 A. Well again I think that issue is somewhat like
22 the safer issue. We would need to know that they
23 would have been introduced sufficiently early to have
24 had a significant impact on the marketplace, but I
25 don't think we would need to know exactly when.

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1 Q. Okay.
2 A. And just to be clear, would number four --
3 I think my answer to your question is we would
4 need to know it was the defendants, but we wouldn't
5 need to know which defendants, but what you wrote
6 down is "which defendants," so I'm not quite sure
7 that we had understood each other there.
8 Q. How about if I change that to "defendant."
9 A. Fine.
10 Q. Okay?
11 A. Uh-huh.
12 Q. So you're with me so far. We're with each other
13 so far.
14 A. And again, you just wrote down "when" when what
15 I said was you wouldn't need to know exactly when,
16 you would just need to know if that is sufficiently
17 early on as to have had a significant impact.
18 Q. Okay. I'm just trying to shorthand -- do the
19 shorthand --
20 A. Okay.
21 Q. -- writing as we go down the page here.
22 We'd also need to know whether or not any of
23 these meaningfully different, significantly safer
24 products that were introduced in time to have a
25 significant impact could have been produced at a

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1 reasonable cost; wouldn't we?
2 A. Yes, where "reasonable" takes into account
3 consumers' willingness to pay for a product that was
4 significantly safer.
5 Q. I'm going to just put a dollar sign there for
6 that. Is that all right?
7 A. Okay.
8 Q. Okay. Then we'd need to know whether or not
9 these products would have been or would be acceptable
10 to consumers; right?
11 A. We would have to know that they would have been
12 acceptable to a -- to a sufficiently large number of

13 consumers to have had a meaningful impact on the
14 market.
15 Q. Now acceptability in this context would include
16 such things as taste; wouldn't it?
17 A. Yes.
18 Q. And smell?
19 A. Yes.
20 Q. And whether or not the product would stay lit?
21 A. Yes.
22 Q. All the things that we've been talking about
23 here this morning, design features that would be
24 acceptable to a sufficient number of consumers so
25 that they would smoke them in significant amounts;
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1 right?
2 A. I agree with that.
3 Q. Okay. And finally we'd need to know what
4 advertising and marketing claims could be made about
5 those products; correct?
6 A. I'll answer the question --
7 I can't actually see what you wrote, so --
8 Q. I wrote "claims."
9 A. -- I'll assume that what you wrote is similar to
10 what you said.
11 Q. I wrote "claims."
12 A. I think we would need to know what kinds of
13 information the companies in general terms could have
14 conveyed about these products.
15 Q. And that would take into account, for example,
16 whether or not the Federal Trade Commission or the
17 Food and Drug Administration would allow them to make
18 those claims; right?
19 A. Yes, uh-huh.
20 Q. And it would also have to take into account,
21 would it not, the extent to which, if at all, other
22 elements of the public health community attacked the
23 product and attacked the claims that were being made.
24 A. I'm not sure whether that would be relevant or
25 not. I mean the public health community has
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1 certainly done plenty of attacking of the tobacco
2 companies and it doesn't necessarily seem to affect
3 their behavior, so I'm not sure that generic attacks
4 by people other than the regulators who had some
5 legal authority to do something about it would have
6 made much of a difference.
7 Q. Well is it your testimony, for example, that if
8 one of the defendants attempted to market one of
9 these products in the state of Minnesota, making
10 whatever health claims that defendants thought were
11 appropriate, and the Minnesota Department of Health
12 took the public position that these claims were not
13 supported, that would affect the ability of the
14 defendants effectively to market this product in
15 Minnesota; wouldn't it?
16 MR. GILL: Assumes facts not in evidence,
17 Your Honor, with respect to this hypothetical.

18 THE COURT: You can answer that.
19 A. I don't know what the state of Minnesota could
20 have done. I'm sorry, I thought you were referring
21 to, you know, the American Medical Association and
22 other non-profit health organizations. But what I
23 would say was that, obviously, any legal requirement
24 that any legal entity, whether it's the federal
25 government or state government, had some authority to

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1 enforce obviously would have to be complied with.
2 Q. Well, and if a reputable organization such as
3 the American Cancer Society took the position
4 publicly that the claims that the defendants were
5 making for one of these products were untrue, that
6 would affect their ability to sell them; wouldn't it?

7 MR. GILL: Assumes facts not in evidence,
8 Your Honor.

9 THE COURT: No, you may answer that.
10 A. Well I'm a little confused about the relevance
11 to what we're talking about, because the predicate
12 here was that we were going to have scientifically
13 defensible, factual information that the companies
14 were going to present regarding these safer -- these
15 significantly safer products, so I guess if the
16 American Cancer Society took the public position that
17 something that was scientifically demonstrable was
18 nonetheless false, I'm not sure that would have any
19 effect on anything.

20 Q. Well you testified that RJR had a scientific
21 basis for making claims about Premier; didn't you?
22 A. I testified that they had a scientific basis to
23 make some claims. I didn't testify as to
24 specifically what was the nature of the claims that
25 they could make that would be defensible, and I

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1 haven't seen any evidence that anything that the
2 American Cancer Society or other non-profit
3 organizations did with respect to Premier had any
4 consequences.

5 Q. Your testimony is that the opposition to Premier
6 by the American Medical Association had no -- played
7 no role in the lack of success of Premier?

8 A. Well I've seen company documents that groused
9 about the fact that it was opposed by anti-smoking
10 organizations. I'm not sure I've really seen any
11 evidence that shows that that actually had any
12 effect.

13 Q. In any event, you would agree with me that we'd
14 need to know the answers to these questions in order
15 to know whether or not a significantly different
16 market, significantly broader variety of products,
17 more information, would result in lower health costs;
18 isn't that right?

19 A. Yes, I think as characterized in my earlier
20 answers with respect to the, you know, the summary
21 points you've put up there.

22 Q. Okay. Well let's take them one by one.

23 We don't know whether the defendants could have
24 developed meaningfully different products; do we?
25 A. In my opinion I think we do know to a reasonable
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1 degree of confidence, that given the economic
2 analysis that we've talked about, the huge stakes
3 that were perceived by the companies, the
4 opportunities that they saw, the progress that was
5 made, incomplete as it was, the progress that was
6 made with the meager resources that were invested, I
7 think one can conclude that if the last four decades
8 of this industry had been allowed to play out
9 competitively with the forces that we've seen were
10 operating rather than being suppressed, that the
11 industry would look significantly different, and that
12 there would be meaningfully different products, safer
13 products along a variety of dimensions. They would
14 have been significantly safer.

15 We've seen evidence even with the meager
16 resources that were invested that progress was made
17 in that direction. I think a lot more progress would
18 have been made if greater resources had been
19 invested. And I think that it's not -- it's not hard
20 to conclude that if -- if we'd had four decades to
21 progress without the restrictions that we've talked
22 about, that all of those things would have been in
23 place.

24 Q. Every one of them.

25 A. That's what I just said.

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1 Q. The defendants would have been able to develop
2 safer products than they have already.

3 MR. GILL: Asked and answered, Your Honor.

4 THE COURT: Well go ahead, you can go
5 through it again.

6 A. Yes.

7 Q. Significantly safer product than they have
8 already.

9 A. Yes.

10 Q. And it would have been one or more of the
11 defendants in this case.

12 A. One or more of the defendants, yes.

13 Q. And you have no hesitancy whatsoever in opining
14 to a reasonable degree of scientific probability that
15 this could have been done in time to have a
16 significant impact on the market.

17 A. Yes.

18 Q. And you also have no hesitancy whatsoever to
19 testify to a reasonable degree of scientific
20 probability that this could have been done on a
21 cost-effective basis.

22 A. Where "cost-effective" is defined to recognize
23 that consumers quite clearly would have been willing
24 to pay somewhat more for products that were
25 demonstrably safer.

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1 Q. And you have absolutely no doubt that they could
2 have designed products that would have been
3 acceptable to consumers; right?

4 MR. GILL: Your Honor, improper question,
5 certainly not the relevant standard, as counsel
6 knows.

7 THE COURT: Sustained.

8 BY MR. BLEAKLEY:

9 Q. And you would testify here today to a reasonable
10 degree of scientific probability that these companies
11 could have developed products that would have been
12 acceptable to a significant number of consumers in
13 time to have a significant impact.

14 A. Yes. I mean, for example, we know that the low
15 tar -- the ultra low tar products are viewed by many
16 smokers as not as desirable along various dimensions.
17 I'm not saying that every smoker would have adopted
18 them and I'm not saying that they would have been
19 indistinguishable from traditional products, what I'm
20 saying is we would have had a variety of products
21 available which would have offered sufficient
22 satisfaction to smokers along the various dimensions
23 that they care about that a significant number would
24 have purchased them.

25 Q. And you will testify to a reasonable degree of
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1 scientific probability that the defendants would have
2 been able successfully to make claims about these
3 products in their advertising and marketing that
4 would have resulted in a significant impact on the
5 market?

6 A. Well again, we've already talked about this.
7 The -- the standard --

8 The basis of the FTC regulation is that the
9 claims not be false or misleading, and I think if the
10 companies had had valid scientific information that
11 they could have developed, if they'd invested the
12 appropriate resources, that there would have been a
13 way to express that information that was not false or
14 misleading but nonetheless was sufficiently specific
15 and clear that smokers would have understood what was
16 being communicated, and it would have affected their
17 choices.

18 Q. There would have been a way.

19 MR. GILL: Asked and answered, Your Honor.

20 Q. Is that right?

21 THE COURT: It's been asked and answered.

22 Q. But despite your opinion to a reasonable degree
23 of scientific probability, you can't identify any
24 such product; can you?

25 A. I think that that's not the issue. I mean we're
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1 talking about an industry that four decades of the
2 history of which has been changed significantly by a
3 conspiracy to suppress the forces of competition and

4 creative destruction, and so I don't think it would
5 be reasonable to expect that someone could say,
6 sitting here today with the four decades having
7 played out the way they did, specifically what those
8 products would look like or specifically which
9 company would have introduced them. It would be like
10 going back to the 1950s and looking from the
11 perspective of the 1950s, trying to anticipate in a
12 modern, dynamic industry what that market would look
13 like in the year 1998. I don't think anyone doing
14 that in 1950s, looking at the cola industry, would
15 have thought that you were going to see sugar-free
16 colas that people -- or most people, including me,
17 couldn't distinguish from regular cola. I don't
18 think they would have anticipated computers the size
19 of a shoe box that would do what the computers the
20 size of a building did then. You can tick off
21 industry after industry where the products that are
22 available today could not possibly have been
23 anticipated in their specific form four decades ago,
24 and yet what we have in this industry is a market
25 that has been arrested in its development relative to

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1 that dynamic process that would have occurred. And I
2 think it's -- it's impossible to say what the
3 specific products would have been, but it's not at
4 all hard to say that the range of products would have
5 been significantly different.

6 Q. It's not just impossible to say what the
7 specific products would have been, it's impossible to
8 say how much safer they would have been; isn't it?

9 A. Well we have some information. We know that
10 with --

11 THE COURT: Excuse me, counsel.

12 MR. BLEAKLEY: Sorry.

13 THE COURT: You're --

14 (Mr. Bleakley resumes his position behind
15 the podium.)

16 THE COURT: Sorry to interrupt you. Go
17 ahead.

18 MR. BLEAKLEY: That's okay.

19 A. Okay. I'll start over. We do have some
20 information. We know with respect to Premier, for
21 example, that a product was developed that eliminated
22 the products of combustion and pyrolysis and along a
23 number of scientific dimensions clearly had reduced
24 the biological activity. Now as we've discussed,
25 there were problems with Premier, there were issues

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1 with its consumer acceptability, but any time you
2 introduce a new product, it takes a while to get the
3 bugs out of it, to get kinks out of it. I think
4 Premier was a significant stride forward.

5 Based on the work that we saw that B.A.T did on
6 ARIEL in the 1960s, I think that, you know, we --
7 we -- we would have gotten to the point that we got
8 to with Premier far earlier if this competition

9 had -- had been unfettered, and I think with that as
10 an indication of what happened, even with limited
11 resources, I don't think it's hard to conclude that
12 we could have come up with products that were
13 significantly safer.

14 Q. And what prevented all of this from happening
15 was an agreement between the defendants not to do
16 in-house animal research and not to exploit the
17 benefits of their products.

18 MR. GILL: Your Honor, assumes facts not in
19 evidence in that it omits several prongs and it omits
20 reference to the overall conspiracy.

21 THE COURT: Well you can answer this
22 question.

23 A. Well the different elements of the conspiracy,
24 as I discussed, are interrelated. I think with
25 respect to each of the other elements I noted that

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1 one of the things it did was contribute to the
2 suppression of the demand for safer products, so I
3 don't think I testified that you could isolate out
4 the first and the last aspects as the mechanism for
5 preventing the dynamic evolution of the industry that
6 otherwise would have occurred. I think all of the
7 different aspects of the conspiracy were mutually
8 reinforcing and contributed to the result.

9 Q. Isn't it a fact, Professor Jaffe, that the
10 opinion that you have expressed about the economic
11 impact of this alleged conspiracy is pure
12 speculation?

13 A. No. I don't know why you would conclude that.
14 I think I spent three days here explaining exactly
15 why, based on the economic analysis and based on the
16 evidence that I have looked at, I've come to the
17 conclusion I've come to.

18 MR. BLEAKLEY: I have no further questions.

19 MR. GILL: Your Honor, I only have 10 or 15
20 minutes, so I think we can just proceed straight
21 away.

22 Mr. Bleakley, could you move this out of the
23 way?

24 (Easel moved by Mr. Bleakley.)

25 MR. GILL: Good afternoon, ladies and
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1 gentlemen.

2 (Collective "Good afternoon.")

3 REDIRECT EXAMINATION

4 BY MR. GILL:

5 Q. Good afternoon, Professor Jaffe.

6 A. Good afternoon, Mr. Gill.

7 Q. Professor Jaffe, do you recall some questions
8 this morning from Mr. Bleakley that dealt with the
9 testimony of Dr. Samet?

10 A. Yes, I do.

11 Q. And do you recall some testimony along the lines
12 suggested to you by Mr. Bleakley that Dr. Samet had
13 testified to a 20 percent reduction in lung cancer as

14 measured in epidemiological studies due, according to
15 Mr. Bleakley, to use of low tar/low nicotine
16 cigarettes?

17 A. That was the suggestion of his question, yes.

18 Q. And you told Mr. Bleakley that you had not read
19 the testimony of Dr. Samet at the time.

20 A. That's correct.

21 Q. I'd like to show you some of Dr. Samet's
22 testimony on February 13, 1998, at pages -- at page
23 3761 in the record, starting at line two.

24 MR. BLEAKLEY: Your Honor, I object to
25 this. This is not recross-examination -- or redirect
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1 examination, this is just reading the testimony of
2 another witness, which, unless it's all read on the
3 entire subject, would be inappropriate in any event.

4 THE COURT: You mean you don't --

5 On what subject, the subject that you crossed
6 on?

7 MR. BLEAKLEY: The subject that I crossed
8 him about and which he said he had no knowledge.

9 THE COURT: Okay. I think he can redirect
10 on a subject that you crossed on.

11 MR. GILL: That's all I intend to do, Your
12 Honor.

13 THE COURT: All right.

14 BY MR. GILL:

15 Q. You see a question at the top of the page, line
16 two, that says, "Now what has happened to the disease
17 risks of smoking over the past 40 years?"

18 A. Yes.

19 Q. All right. And Dr. Samet asked -- answers,
20 "Well we've seen, certainly, no drop in the disease
21 risks associated with smoking, and evidence of
22 increasing risks for some diseases."

23 Now is that consistent with the understanding
24 that you got from Mr. Bleakley regarding the
25 testimony of Dr. Samet?

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1 A. Well Mr. Bleakley seemed to be suggesting that
2 Dr. Samet had testified that there was a reduction,
3 and this doesn't seem to indicate that.

4 MR. BLEAKLEY: Your Honor, --

5 Q. Is it fair --

6 MR. BLEAKLEY: -- I object to that. Now
7 the witness is actually testifying on the nature of
8 this prior testimony. If he wants to display the
9 testimony of Dr. Samet, I objected to that, too, but
10 I can understand it, but engaging in this dialogue
11 with Professor Jaffe I submit is inappropriate.

12 THE COURT: Well your question
13 characterized Dr. Samet's testimony. I think he is
14 entitled to --

15 MR. BLEAKLEY: I characterized it
16 accurately, Your Honor.

17 THE COURT: All right. Well --

18 MR. BLEAKLEY: Now what he wants to do --

19 THE COURT: That's what we're here to find
20 out.
21 MR. BLEAKLEY: But he's asking this witness
22 questions about it. He's never seen it until lunch
23 time, apparently.
24 THE COURT: All right. You can answer the
25 question.

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1 BY MR. GILL:
2 Q. And Professor Jaffe, I think you did answer the
3 last question; did you not?
4 A. Yes, I believe I did.
5 Q. All right. Let's go on to the question that
6 starts at line seven on that page.
7 A. It says --
8 Q. Okay. You can go ahead and read it.
9 A. It says, "What do we see when we measure the
10 disease risk in specific studies, doctor?"
11 And the answer is, "We saw some -- I talked
12 about some information yesterday, for example, of the
13 CPS-I study, that was the 1959-1960 to 1972 study
14 that showed some drop, about a 20 percent drop in
15 risk of dying from lung cancer for those who were
16 smoking the lower tar cigarettes of the time '59 to
17 '72, compared to the higher tar cigarettes of the
18 time. So just remember that the higher tar
19 cigarettes in that study had -- were in the range of
20 25 and higher in terms of the milligrams of tar, the
21 lower tar were about -- under 17.6 milligrams of tar,
22 if I remember correctly, so with that degree of
23 reduction, there was about a 20 percent drop in the
24 lung cancer risk."
25 Q. All right. Let me interrupt you right there.

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1 Now that does refer to a 20 percent reduction in
2 the lung cancer risk; does it not?
3 A. Yes, it does.
4 Q. And it references a timeframe between what
5 years?
6 A. 1959-'60 compared to 1972.
7 Q. Now further on on the very next page, 3762, do
8 you see the question that starts at line 19?
9 A. Yes.
10 Q. Would you read that question and that answer,
11 please.
12 A. "But what do we see when we measure the risks of
13 smoking over the past 40 years?
14 "Answer: Well there we have some information
15 that I discussed yesterday. We have the two studies
16 of the American Cancer Society, the two studies of
17 one million Americans, the earlier study across the
18 '60s, '59 to '72, the later study beginning in the
19 '80s. And what I showed yesterday was that in that
20 study, the disease risk, lung cancer and the other
21 major smoking-caused diseases, had actually gone up
22 comparing the two studies, one looking at the risks
23 in persons who were enrolled towards the left side of

24 that exhibit and the other more towards the right
25 side of that exhibit.

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1 "And also, in terms of the results of the
2 individual epidemiological studies in the animations
3 as I showed the findings of those studies over time,
4 there was no evidence that risks had begun to drop
5 off in the later studies."

6 Q. So what is your interpretation, Professor Jaffe,
7 of the testimony from Dr. Samet with regard to any
8 reduction in the epidemiological risks associated
9 with the smoking of low tar cigarettes after 1972?

10 MR. BLEAKLEY: Objection to any
11 interpretation of this testimony by this witness.

12 THE COURT: Well I think you should --
13 You'll have to rephrase that, counsel.

14 BY MR. GILL:

15 Q. Let me ask the question this way, Professor
16 Jaffe: Is the answer to the last question that you
17 just read to the jury, is that consistent with the
18 understanding that you gained from the nature of the
19 question put to you by Mr. Bleakley this morning
20 regarding Dr. Samet's testimony?

21 MR. BLEAKLEY: Same objection.

22 THE COURT: No, you may answer that.

23 A. No. I think what this shows is that Dr. Samet's
24 testimony was quite consistent with what I had said,
25 which was that the evidence indicated it was unclear

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1 that there was a significant health benefit from low
2 tar cigarettes.

3 Q. And that in the latter timeframe it appeared to
4 Dr. Samet that the risk had actually gone up?

5 A. That's what the testimony says, yes.

6 Q. Do you also recall some questions from Mr.
7 Bleakley with regard to Exhibit 12513?

8 A. Yes, I do.

9 Q. These were questions that were put to you last
10 Friday by Mr. Bleakley in connection with a 1983
11 internal memorandum from the files of RJR discussing
12 the Philip Morris biological research and development
13 activities?

14 A. That's correct.

15 Q. And do you recall that Mr. Bleakley asked some
16 questions relating to any biological research that
17 Philip Morris might have undertaken at its plant in
18 Richmond?

19 A. Yes.

20 Q. And Mr. Bleakley was juxtaposing the research at
21 Richmond, which would be in-house, within the United
22 States, versus research occurring in Cologne as you
23 discussed during your direct testimony.

24 A. That's correct.

25 Q. Would you look at page Bates stamp 3508, please,

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1 of Exhibit 12513.

2 All right. Down at the bottom of that page do
3 you recall some questions from Mr. Bleakley with
4 regard to part of the information that's contained
5 there?

6 A. Yes.

7 Q. Would you read the relevant sections of that
8 paragraph with respect to the nature of the testing
9 that is occurring at Richmond.

10 A. Well it says, "In Richmond, Philip Morris's R&D
11 department has one group called basic research and
12 extramural activities under Dr. Tom Osdene. It
13 numbers 86, of whom 80 are involved in research and
14 six in collecting and critiquing smoking and health
15 literature. Of the 80, about 12 are involved in
16 smoking behavior research compared to six at RJR,
17 about 30 are involved in radioisotope work compared
18 to three at RJR, in such areas as air dilution
19 effects, flavor transfer and decomposition filter
20 efficiency. As shown in slide seven, PM has also
21 advertised explicitly for pharmacologists,
22 physiologists, psychologists, experts in the
23 cardiovascular and regulatory systems."

24 Q. All right. Do you recall the suggestions that
25 perhaps some or many of the 86 employees at Richmond

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1 might have been conducting in-house biological
2 research of the --

3 MR. BLEAKLEY: Objection to Mr. Gills'
4 characterization of my questions.

5 THE COURT: Rephrase it, counsel.

6 BY MR. GILL:

7 Q. What do you recall about the nature of -- of --
8 of those questions in terms of the identity of the
9 researchers?

10 A. Well Mr. Bleakley's questions were asking me
11 about my -- my opinion regarding biological research
12 and in particular whether or not this information
13 showed that Philip Morris was in fact doing
14 biological research in its Richmond, Virginia
15 facility.

16 Q. Would research regarding radioisotope work, as
17 far as you can tell from your review of defendants'
18 internal documents, have involved the biological
19 activity of the type which you have testified was
20 proscribed by the conspiracy?

21 MR. BLEAKLEY: Object to the question, it's
22 leading.

23 THE COURT: Well it is leading. I'll allow
24 it though.

25 A. Well I think radioisotope work in general might
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1 be, but it says specifically here "such areas as air
2 dilution effects, flavor transfer and decomposition
3 of filter efficiency," and I don't think those are
4 the kinds of biological research that we've been

5 talking about with respect to the conspiracy.
6 Q. Do you recall responding to those questions by
7 pointing to the term "smoking behavior research" as
8 being an area that was unclear as to whether that
9 related to biological research?
10 A. Yes, I did.
11 Q. I'm going to go now to Bates stamp 3513 of this
12 same exhibit.
13 A. I have it.
14 MR. BLEAKLEY: What is the number, Mr.
15 Gill?
16 MR. GILL: 3513. Exhibit number is 12513.
17 BY MR. GILL:
18 Q. Do you recall -- or excuse me. In looking at
19 the top of that page, is there some further
20 information presented by the author of this memo with
21 respect to behavioral research?
22 A. Yes. It says, "Slide 11 describes some of
23 Philip Morris's activities and extent of involvement
24 in behavioral research. Information from this
25 research may be meaningful in defining beneficial
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1 effects of smoking, the effect of key smoke
2 components such as nicotine on smoker behavior,
3 physiology, and smoking habits, smoker compensation
4 with high and low tar cigarettes."
5 Q. Any indication that that behavioral research as
6 discussed there relates to the type of biological
7 research to which you have opined as the conspiracy
8 proscribed activity?
9 A. It doesn't seem to, no.
10 Q. And if you'd look at page 3510 of Exhibit 12513,
11 up at the top of the page, does the author
12 specifically indicate the type of research that's --
13 that the author believes Philip Morris is conducting
14 at Cologne?
15 A. Yes. It says, "The one in Cologne, owned and
16 operated by Philip Morris," but "(Philip Morris' name
17 not attached), is devoted to such biological
18 activities as animal experiments, toxicology and
19 short-term screening, paren, (mutagen tests)."
20 Q. Is that information consistent with the
21 information that you found in the internal documents
22 of Philip Morris related to the type of testing being
23 conducted in Cologne at the facility called INBIFO?
24 A. Yes.
25 Q. You also testified during direct with respect to
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1 a Philip Morris memorandum in 1978 that also dealt
2 with the subject of Philip Morris research and
3 development; did you not?
4 A. Yes, I did.
5 Q. That's Exhibit 12512?
6 A. Yes, it is.
7 Q. Would you look at page 3077, please, of that
8 exhibit.
9 A. I have it.

10 Q. Now during your testimony on direct, you
11 provided testimony regarding this particular page of
12 that exhibit dealing with research and development at
13 Philip Morris; did you not?
14 A. Yes. At the bottom of the page it talks about
15 the research in Cologne and the verbal agreement
16 among the domestic companies not to perform animal
17 testing in-house.
18 Q. This particular section of the memorandum goes
19 on for three or four pages; does it not?
20 A. Yes.
21 Q. It contains information above the last paragraph
22 on the last page dealing with the type of research
23 that RJR believed Philip Morris was conducting at
24 this time frame in 1978.
25 A. Yes.

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1 Q. Did you find, in reviewing the three or four
2 pages of this memorandum dealing with Philip Morris
3 research, any indication that the author believed
4 that Philip Morris was conducting research at the
5 Richmond facility that was biological in nature, or
6 at any other location in the United States of an
7 in-house nature that related to biological research?
8 A. No.
9 Q. Now the two documents to which I just referred,
10 they are RJR documents; are they not?
11 A. That's correct.
12 Q. It's an RJR employee attempting to inform RJR
13 management of what Philip Morris has been doing in
14 several areas, including research.
15 A. That's correct.
16 Q. No indication that Philip Morris is cooperating
17 in providing this information; is there?
18 A. No.
19 Q. And you understand that Mr. Bleakley, in
20 addition to representing all the defendants with
21 respect to your testimony, specifically represents
22 Philip Morris in this case.
23 MR. BLEAKLEY: Objection, Your Honor, Mr.
24 Bleakley does not represent any defendant in this
25 case other than Philip Morris.

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1 MR. GILL: That's why I said with regard to
2 his cross-examination, Your Honor, of this witness.
3 THE COURT: I do not wish to have more than
4 one person stand.
5 The objection is sustained.
6 BY MR. GILL:
7 Q. You do understand, Professor Jaffe, that Mr.
8 Bleakley represents Philip Morris.
9 A. Yes, that is my understanding.
10 Q. Okay. Now did you find any documents in your
11 review of the internal documents of defendant from
12 the files of Philip Morris, his client, indicating
13 that Philip Morris was conducting biological research
14 at its facility in Richmond?

15 A. No, I didn't.
16 Q. Did Mr. Bleakley show you any such document
17 during his cross-examination?
18 A. No, he didn't.
19 Q. Mr. Bleakley also put to you several questions
20 dealing with the manner in which documents were
21 provided to you for your review. Do you recall those
22 questions?
23 A. Yes.
24 Q. During the course of Mr. Bleakley's
25 cross-examination of you, did he show you any
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1 internal documents from the files of any defendant
2 that you had not previously seen?
3 A. No, he did not.
4 Q. Did he show you any document at all during
5 cross-examination from the internal files of any of
6 the defendants that in any way affected or altered
7 the opinions that you gave on direct?
8 A. No, he didn't.
9 Q. Now do you also recall some questions dealing
10 with the identities of researchers that were funded
11 by CTR and the institutions that those researchers
12 may have been associated with?
13 A. Yes, I do.
14 Q. Did you see in the review of any of the internal
15 documents of CTR any indication that CTR at any time
16 during its 44-year existence ever polled or surveyed
17 any of those researchers to determine whether or not
18 those researchers believed that smoking caused lung
19 cancer and other diseases?
20 A. No, I didn't.
21 Q. During your work in this case, have you come
22 across any mention of any such survey or poll?
23 A. Yes. It was discussed in Dr. Glenn's testimony
24 before Congress that such a survey had been conducted
25 by an outside organization and found that the
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1 majority of the researchers did in fact accept the
2 causation hypothesis.
3 Q. Back last Friday on cross-examination, do you
4 recall responding to a question from Mr. Bleakley
5 with an answer that you felt that it was, quote,
6 "fairly widely believed that cigarettes are harmful?"
7 A. I said something like that, yes.
8 Q. In your review of the industry's internal
9 documents, Professor Jaffe, did you arrive at any
10 opinion with respect to the target audience or the
11 industry's efforts to convince that target audience
12 that the case was not proven?
13 MR. BLEAKLEY: Objection, Your Honor,
14 that's beyond the scope of cross, it's beyond the
15 scope of direct, and it's also beyond the scope of
16 this witness's expertise, his expert report.
17 THE COURT: You'll have to rephrase that
18 question, counsel.
19 BY MR. GILL:

20 Q. When you testified, Professor Jaffe, about
21 knowledge that smoking may be harmful being fairly
22 widely believed, in what context were you providing
23 that testimony?

24 A. Well there was a question by Mr. Bleakley as to
25 whether in fact I thought that was the case. I think

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1 the context related to the part of my opinion where I
2 said that part of the purpose of the conspiracy was
3 to prevent confirmation of the causation hypothesis.
4 And certainly while it's true that I think most
5 people, certainly adults, have a general
6 understanding that smoking is harmful, we also saw in
7 the documents that the companies understood that it
8 was important to provide reassurance, to provide
9 rationalization, so that smokers, even if they did on
10 some level understand that smoking was harmful, would
11 have something to fall back on to rationalize
12 continuing to smoke.

13 Q. Did you see documents from the files of
14 defendants on that very point?

15 A. Yes, I did.

16 Q. And finally, Professor Jaffe, do you recall some
17 questions dealing with the amount of funding that the
18 defendants provided for research and development in
19 relation to the funding of research and development
20 by other industries?

21 A. Yes.

22 Q. Professor Jaffe, do you know of any other
23 industry whose products have been reported to have
24 caused the death of 400,000 individuals per year?

25 A. No, I don't.

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1 MR. BLEAKLEY: Objection, Your Honor,
2 beyond the scope of cross-examination.

3 THE COURT: Sustained.

4 Q. Given the situation reported with respect to the
5 harm caused by cigarettes, what type of funding would
6 have been appropriate, given an unrestrained use of
7 the process of creative destruction?

8 MR. BLEAKLEY: Objection, Your Honor,
9 beyond the scope of cross, it's also beyond the scope
10 of this witness's expertise, and it's argumentative.

11 THE COURT: You may answer that.

12 A. Well I think, as I described somewhere along the
13 way in the last couple of days, I think it's hard to
14 put an exact dollar figure on the amount that would
15 have been spent, but I think that the amount that
16 would have been spent would have been dramatically
17 greater than the amount that actually was spent.
18 There are other industries that didn't face the same
19 kind of crisis that this industry faced that
20 routinely spend a much larger fraction of their
21 resources on research than this industry has, and I
22 think, given the crisis that it faced, if it had been
23 competing, it would have spent dramatically more.

24 MR. GILL: Thank you, Professor Jaffe.

25 Nothing further.

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1 MR. BLEAKLEY: Your Honor.

2 THE COURT: You may step down.

3 MR. BLEAKLEY: May I approach the bench for
4 a second?

5 THE COURT: Okay.

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1 (Side-bar discussion as follows:)

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25

(Side-bar discussion concluded.)

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RE CROSS-EXAMINATION - ADAM B. JAFFE

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1 MR. BLEAKLEY: Shall I just read it, Your
2 Honor, or ask the question?

3 THE COURT: Pardon me?

4 MR. BLEAKLEY: Shall I just read it or ask
5 the question?

6 THE COURT: Well did you want to highlight
7 it and put it on the screen? Why don't you highlight
8 it and put it on the screen.

9 MR. GILL: Your Honor, the difficulty is
10 that that's our only copy here.

11 THE COURT: That's your only copy? Okay,
12 then don't highlight it. You better read it and ask
13 him the question.

14 RE CROSS-EXAMINATION

15 BY MR. BLEAKLEY:

16 Q. Professor Jaffe, I'm reading from page 3839 to
17 3841 of Dr. Samet's trial testimony, and then I'm
18 going to ask you a question. Okay? Starts at line
19 two.

20 "Question: Well you had the results of the
21 CPS-II study at the time you rendered your expert
22 report -- that you prepared your expert report in
23 this case; correct?

24 "Answer: Correct.

25 "Question: And in preparing your expert report,

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1 you were careful to review all pertinent literature
2 on the subject matters covered in that expert report;
3 right?

4 "Answer: Correct.

5 "Question: And in your expert report you
6 stated -- well you gave the opinion that smokers of
7 filtered cigarettes, in comparison with smokers of
8 non-filtered cigarettes, have an approximately 20
9 percent lower risk of lung cancer; correct?

10 "Answer: Yes."

11 There's a colloquy with the court and Mr.
12 Hamlin.

13 At page 14, "You stated in the expert report
14 that smokers of filter cigarettes in comparison with
15 smokers of non-filter cigarettes have an
16 approximately 20 percent lower risk of lung cancer,
17 although the absolute risk remains substantially
18 above that for never smokers.

19 "Answer: Yes.

20 "Question: And in fact, the state of medical
21 knowledge today is that low tar cigarettes or -- let
22 me strike that.

23 "The state of medical knowledge today is that
24 smokers of filter cigarettes, in comparison with
25 smokers of non-filter cigarettes, have an

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1 approximately 20 percent lower risk of lung cancer;
2 correct?

3 "Answer: I think the distinction I was trying
4 to draw this morning, that at any one particular
5 time, as in my study or other studies, let's say
6 1980-'82 or later, looking at smokers, higher tar
7 versus lower tar or filter versus non-filter, there's
8 been evidence of a reduction in risk, approximately
9 20 percent or so as mentioned here. That speaks to
10 what I meant by this cross-sectional comparison of
11 the risks in smokers of, in this case, filter
12 compared to non-filter, or as we saw in the CPS-I
13 study, that span of time, cases occurring '59 through
14 '72, given that study, a reduction of risk. And
15 that's what I meant early this morning when I said
16 these works, they're snapshots in time of what the
17 risks are of smoking these different types of
18 products.

19 "Question: Let me see if I understand. What
20 you're saying is that if you compare smokers of
21 filtered cigarettes with smokers of non-filtered
22 cigarettes at the same time, the smokers of filtered
23 cigarettes will have a 20 percent lower risk of lung
24 cancer; is that it?

25 "Answer: I think that's a reasonable

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1 interpretation of what I said is cross-sectional
2 snapshots."

3 Did you read that testimony at lunch today?

4 A. No.

5 MR. BLEAKLEY: I have nothing further.

6 MR. GILL: Just on this point, Your Honor.

7 RE-REDIRECT EXAMINATION

8 BY MR. GILL:

9 Q. Professor Jaffe, did you read any testimony from
10 Dr. Samet at lunch this afternoon?

11 A. I haven't read Dr. Samet at lunch or any other
12 time.

13 Q. The only thing you know about Dr. Samet's
14 testimony since the noon break is what I read to you
15 on the witness stand and what Mr. Bleakley just read

16 to you; is that correct?
17 A. That's correct.
18 Q. And in connection with what Mr. Bleakley just
19 read to you, did you see any difference in Dr.
20 Samet's testimony with regard to the period between
21 '59 and '72 regarding the 20 percent lower risk of
22 lung cancer than before lunch, during that timeframe?
23 A. No.
24 Q. And the questions that I put to you dealt with
25 the timeframe since 1972?

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1 A. That's correct.
2 MR. BLEAKLEY: Objection, Your Honor, asked
3 and answered.
4 MR. GILL: That's all I have, Your Honor.
5 THE COURT: You may step down.
6 MR. GILL: Thank you, Professor Jaffe.
7 (Witness excused.)
8 THE COURT: Let's take a short recess.
9 (Recess taken.)
10 THE CLERK: All rise, court is again in
11 session.
12 (Jury enters the courtroom.)
13 THE CLERK: Please be seated.
14 THE COURT: Counsel.
15 MS. WALBURN: Thank you, Your Honor.
16 Good afternoon, ladies and gentlemen.
17 (Collective "Good afternoon.")
18 MS. WALBURN: The plaintiffs call Paul
19 Much.
20 THE CLERK: Mr. Much, could you please
21 stand, raise your right hand.
22 (Witness sworn.)
23 THE CLERK: Please state your name and
24 spell your last name.
25 THE WITNESS: Paul J. Much, M-u-c-h.

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DIRECT EXAMINATION - PAUL F. MUCH

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1 THE CLERK: Thank you. Please have a seat.
2 PAUL J. MUCH
3 called as a witness, being first duly
4 sworn, was examined and testified as
5 follows:
6 DIRECT EXAMINATION
7 BY MS. WALBURN:
8 Q. Good afternoon, Mr. Much.
9 A. Good afternoon.
10 Q. What is your current position?
11 A. I am senior managing director of the investment
12 banking firm Houlihan Lokey Howard & Zukin. I am a
13 member of the firm's operating committee. I am on
14 the firm's board of directors. I am the senior-most
15 valuation officer in the firm.
16 Q. And what is your area of expertise?
17 A. I'm a specialist in the valuation of businesses
18 and their securities and financial analysis.
19 Q. And are you going to be testifying here today
20 primarily about profitability of the tobacco

21 industry?

22 A. Yes.

23 Q. First can you give us a little background on
24 your firm in Chicago?

25 A. Sure. Houlihan Lokey Howard & Zukin is an
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1 investment banking firm consisting of some 250
2 people. We have nine offices throughout North
3 America. I'm based in the Chicago office. Our
4 firm's clients range in size from small privately-
5 held companies to very large New York Stock Exchange
6 companies. We also do work for governmental
7 agencies; I've done work for the Internal Revenue
8 Service, for the United States Department of Justice,
9 the United States Department of Labor, the Office of
10 Thrift Supervision. And we work on about 1200 client
11 assignments every year.

12 Q. Can we discuss your educational background.

13 A. Sure.

14 Q. Where did you get your undergraduate degree?

15 A. I did my undergraduate work at the University of
16 Illinois. I received a bachelor's degree in finance
17 with a concentration in accounting, then I graduated
18 in June 1971.

19 Q. And then did you go on to receive a graduate
20 degree?

21 A. Yes. I did my graduate work at Northwestern
22 University where I received a masters in business
23 administration with concentrations in finance and
24 accounting a year later in June 1972.

25 Q. And what was your first job after receiving your
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1 M.B.A.?

2 A. Immediately upon graduation I joined the Harris
3 Trust & Savings Bank in Chicago where I joined their
4 corporate finance group doing work for the bank,
5 their own senior management, and the bank's customers
6 as well, on various financial matters, both with
7 regard to the bank's strategies and the bank's
8 clients' financial strategies.

9 Q. And did you then join a different company in
10 1978?

11 A. In 1978 I joined Duff & Phelps in Chicago. Duff
12 & Phelps is a firm that was principally involved in
13 evaluation of securities and financial analysis.

14 Q. And while you were at Duff & Phelps, did one of
15 your projects involve Arthur Andersen?

16 A. Yes. In the 19 --

17 In the early 1980s, Arthur Andersen, which is
18 the world's largest public accounting firm, it's the
19 world's -- the largest firm of CPAs, they were going
20 through an international restructuring, and our firm
21 was retained and I led the project team in terms of
22 analyzing the profitability of Arthur Andersen for
23 Arthur Andersen for the international partnership on
24 a global basis, by country, by city, and I was asked
25 to allocate a value among all their offices

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1 worldwide.
2 Q. Did this project involve valuation
3 determination?
4 A. It was a determination of value, yes.
5 Q. And what is the underlying basis of a valuation
6 determination?
7 A. Profitability. Profitability is at the heart of
8 any determination of valuation.
9 Q. And did you then join your present firm in 1984?
10 A. Yes.
11 Q. Can we discuss a couple of the representative
12 projects or clients that you have worked with at
13 Houlihan and Lokey.
14 A. Okay.
15 Q. And have you worked on a project involving
16 Cesar's World?
17 A. Yes. Cesar's World -- and this is the company
18 that has the hotels and casinos throughout the United
19 States, most well known is Cesar's Palace in Las
20 Vegas, Lake Tahoe, Reno and Atlantic City, and
21 Cesar's World, which was and still is a New York
22 Stock Exchange company, was going through a
23 restructuring of their ownership. We were retained
24 to do a financial analysis of Cesar's in connection
25 with their ability to repay their debt that they

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1 borrowed in connection with that ownership
2 restructuring.
3 Q. Have you also worked on a project involving
4 Lockheed Corporation?
5 A. Yes. In the early 1980s. And Lockheed, this is
6 the major aircraft manufacturer, was undergoing a
7 dispute. Its existing management wanted to focus on
8 commercial aviation as a primary strategy in the
9 business. Existing management was under attack by a
10 raider, and that raider wanted to change management
11 and refocus the company on military aviation. My
12 client was the trustee for the employee shareholders,
13 and we were being retained to address the alternative
14 profitability and alternative valuation implications
15 of those two different strategies, the military
16 aviation on the one hand and commercial aviation on
17 the other, to assist the trustee for the employee
18 shareholders in deciding which way to go.
19 Q. Have you worked on a project involving Phillip's
20 Petroleum?
21 A. Yes. Also in the 1990s Phillip's Petroleum was
22 undergoing some ownership changes, and I was retained
23 by, again, the trustee for the employee shareholders
24 to do an analysis and a determination of value in
25 their possible investment in the firm in receiving

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1 back various stock/securities.

2 Q. And have you also worked on valuation and
3 profitability issues involving sports franchises?
4 A. Yes. Throughout my career I've done work for
5 approximately 40 different sports teams, sports
6 leagues, stadiums and governmental agencies in
7 connection with questions on sports economics.
8 Q. Has your work included any of the Chicago sports
9 teams?
10 A. I've done work for both the Chicago Bears and
11 the Chicago Bulls.
12 Q. And can you tell us about one of your
13 assignments involving the Chicago Bulls and broadcast
14 rights.
15 A. Sure.
16 Several years ago the Chicago Bulls, the team,
17 was in a dispute with the league, with the National
18 Basketball Association, on the allocation of revenue
19 in connection with their TV broadcasts on WGN. WGN
20 not only broadcasts locally in the Chicago
21 metropolitan area, but you can watch WGN here in
22 Minnesota, you can watch WGN in California. WGN is
23 what's commonly known as a super station. So WGN was
24 telecasting the Bulls team not only in Chicago but
25 throughout the nation. Under the rules of the NBA,

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1 the local team gets to keep the local revenue and the
2 NBA, the league, is entitled to all the revenue in
3 the national marketplace, and the question became,
4 since it was one station broadcasting both in the
5 local marketplace and the national marketplace, the
6 question came how to allocate that revenue for the
7 team and the league on a fair basis, and that was my
8 job.

9 Q. And have you worked with our law firm in the
10 past?

11 A. Yes.

12 Q. And without revealing any confidential
13 information, can you tell us whether you have
14 performed work for any of the law firms representing
15 the defendants in this case on other matters?

16 A. I have.

17 Q. And in this case were you asked to perform a
18 financial analysis of the tobacco companies for the
19 state of Minnesota and Blue Cross and Blue Shield of
20 Minnesota?

21 A. Yes, I was.

22 Q. And how, if at all, does profitability relate to
23 financial condition?

24 A. Profitability is at the heart of financial
25 condition. Profitability is the basis upon which to

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1 determine the value of a company. Profitability is
2 the basis upon which to determine whether or not a
3 company can repay the debt it has borrowed.
4 Profitability is the key to financial condition.

5 Q. And does profitability over a period of time
6 also affect financial condition?

7 A. Yes. When you look over a period of time, if
8 you have a consistent history of profitability,
9 growing profitability, stable profitability, you will
10 find that that will enhance financial condition.

11 Q. And looking at the cigarette industry generally,
12 is there anything in particular about the history of
13 the profitability of the cigarette industry that
14 affects your general statement on how profitability
15 relates to financial condition?

16 A. When you look at the cigarette industry, the
17 cigarette industry has enjoyed a very long history of
18 stable and growing profits, and as a result the
19 cigarette companies have a very strong financial
20 position.

21 Q. And is the financial condition of every
22 cigarette company in the United States the same?

23 A. Generally they all have a history of
24 profitability, history of stable profitability. You
25 will find differences in size; for example, Philip

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1 Morris is the largest competitor, where you have
2 others like Liggett which are significantly smaller.

3 Q. And in addition to profitability, are you also
4 prepared to testify today as to your opinions on the
5 money the defendants have spent on advertising,
6 marketing and promotion?

7 A. Yes.

8 Q. On research and development?

9 A. Yes.

10 Q. And on youth prevention programs?

11 A. Yes.

12 Q. And are the opinions the calculations that you
13 will be presenting here today?

14 A. Yes.

15 Q. And are all the opinions you are giving here
16 today based on your education, training, experience,
17 and expertise as a financial analyst?

18 A. Yes.

19 Q. And are all your opinions here today held to a
20 reasonable degree of certainty?

21 A. Yes.

22 Q. Can you generally describe the information and
23 the sources of information you used in performing
24 your analysis of the tobacco companies.

25 A. The information I used fits in three general

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1 categories. First, we have information from the
2 companies themselves in terms of their annual reports
3 published to their shareholders and various filings
4 of financial information they have made with the
5 governmental agency, the Securities and Exchange
6 Commission, which would be the first source of
7 information for the first general category.

8 Second would be information also available in
9 the public domain; for example, the Maxwell reports,
10 reports which are viewed to be authoritative and
11 reliable in the tobacco industry for market-share

12 information. Also in the public domain are reports
13 that are generally published sources of investment
14 information that other financial analysts would
15 generally rely upon.

16 And the third area would be the discovery
17 process in this case. What I mean by "the discovery
18 process" here is where the plaintiffs have asked the
19 defendants certain questions in writing and the
20 defendants have responded back to the plaintiffs with
21 answers in writing. And that's the discovery process
22 I'm referring to here.

23 Q. And how would you describe the volume of
24 information which you reviewed in this case?

25 A. It was vast. We're talking about 42 years of
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1 annual reports and Securities and Exchange Commission
2 filings, we're talking about tens of thousands of
3 pages of information, file box after file box, file
4 cabinet after file cabinet. The information that was
5 reviewed was very substantial.

6 Q. Did you have assistance in preparing your
7 analysis?

8 A. Yes. Working with me in my analysis there were
9 two senior financial analysts from my office in
10 Chicago and one senior associate who also worked with
11 me in this case.

12 Q. And did these colleagues work under your
13 supervision, control and direction?

14 A. Yes, they did.

15 Q. Were there any gaps in the information which you
16 had available in conducting your analysis?

17 A. Yes, there were gaps in the information that I
18 received.

19 Q. And in the course of your work generally as a
20 financial analyst, is it typical or atypical to have
21 missing information when you're performing an
22 analysis?

23 A. It's quite typical that you would have gaps in
24 the information.

25 Q. And in your profession, how do you account for
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1 those gaps?

2 A. Well, when you have a gap in information, you
3 take a look at what information is available and you
4 make a judgment about the gap, and then what you do
5 is you cross check what your conclusions are
6 regarding that gap based upon the information that is
7 available. It's quite typical in financial analysis.

8 Q. And in your analysis in this case, was
9 everything you relied on disclosed to the defendants?

10 A. Yes, it was.

11 Q. And did you provide reports to the defendants
12 summarizing your work?

13 A. Yes, I did.

14 Q. Have you provided amendments to those reports?

15 A. I have.

16 Q. And why was that?

17 A. Two general reasons. There were amendments to
18 the reports because, first of all, the information we
19 received from the defendants had been changed from
20 time to time. Part of that was errors that they made
21 in providing information. They amended it and they
22 provided us with new information.

23 At the same time -- and this is the second
24 reason there were amendments -- in reviewing all the
25 materials and in going through some 10,000

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1 computations in our analysis, we also made errors,
2 and as we corrected those errors we amended our
3 reports.

4 Q. Would you turn in your exhibit book to Exhibit
5 24305.

6 A. Okay.

7 Q. Was this exhibit prepared under your supervision
8 and direction?

9 A. Yes, it was.

10 Q. And without getting into the specifics, can you
11 generally describe the contents of this exhibit.

12 A. This is my analysis on profitability where we
13 look at the companies on a global basis, both tobacco
14 and non-tobacco, we look at just tobacco globally, we
15 look at their profitability domestically from
16 tobacco, we look at their profitability as far as
17 Minnesota, and we also do some various market-share
18 information.

19 Q. And what sources of information did you use in
20 preparing this summary?

21 A. In preparing this summary we relied upon the
22 annual reports and the filings of the Securities and
23 Exchange Commission as well as other discovery in
24 this case.

25 Q. And does your analysis as reflected in this

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1 summary, Exhibit 24305, accurately summarize these
2 sources of information?

3 A. Yes.

4 MS. WALBURN: Your Honor, we would offer
5 Exhibit 24305 under Rule 1006.

6 MR. BERNICK: No objection.

7 THE COURT: Court will receive 24305.

8 BY MS. WALBURN:

9 Q. Would you turn to page nine of this exhibit.

10 A. Okay.

11 Q. And can you describe this chart, please.

12 A. First of all, this chart identifies the six
13 companies that have historically been involved with
14 tobacco in the United States. It also identifies how
15 they began first in domestic tobacco, then, based
16 upon their profits in their domestic tobacco, they
17 were able to expand into international tobacco, and
18 then, based upon their profits in both domestic and
19 international tobacco, they were able to expand
20 beyond tobacco into other consumer products. It's
21 the general background on the companies.

22 Q. And are there still six tobacco manufacturers in
23 the United States?

24 A. No, there are not. American Tobacco was
25 acquired by Brown & Williamson, whose parent company
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1 is B.A.T Industries, in late 1994.

2 Q. And with respect to Brown & Williamson, does the
3 same general rule apply on their domestic versus
4 international tobacco operations and how those
5 operations evolved?

6 A. Brown & Williamson would be the one exception.
7 Brown & Williamson, which was acquired by a
8 predecessor to B.A.T, British-American Tobacco, back
9 in the late 1920s, what you found is that Brown &
10 Williamson, being the domestic operation, expanded
11 domestically, while the then British-American
12 Tobacco, which ultimately became B.A.T Industries,
13 expanded internationally. So you had a simultaneous
14 expansion, both domestic and international, at the
15 same time, unlike the other companies that started
16 first with domestic and then went international.

17 Q. Would you turn to Exhibit 24306 and page 21 in
18 that exhibit.

19 A. All right.

20 Q. Was this chart prepared under your direction?

21 A. Yes, it was.

22 Q. And without getting into the particulars, can
23 you generally describe what this chart demonstrates.

24 A. This chart demonstrates for Philip Morris the
25 growth in their -- in the company, in their

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1 operations over time, as well as identifies some key
2 milestones of acquisitions that they've made through
3 the years.

4 Q. And what sources of information were used in
5 preparing this chart?

6 A. This would be the annual reports, the SEC
7 filings, and -- that would be the information I
8 described earlier.

9 MS. WALBURN: Your Honor, we would offer
10 just this chart as Exhibit 24306A for illustrative
11 purposes.

12 MR. BERNICK: I have no objection to that.

13 THE COURT: Court will receive 24306A for
14 illustrative purposes.

15 BY MS. WALBURN:

16 Q. Can you take us through this chart in more
17 detail, please.

18 A. Sure.

19 The upper portion of this chart is a graph which
20 shows the expansion of this company's sales over
21 time. The lower portion of the chart identifies some
22 key milestones. And this really illustrates the
23 expansion beyond tobacco. For example, in 1970
24 Philip Morris expanded into alcohol beverages with
25 the acquisition of a majority interest in Miller

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1 Brewing. Then in 1985 it moved into foods, it
2 acquired General Foods in 1985 for 5.6 billion
3 dollars. Then in 1988 the expansion of the food
4 continues where it acquired Kraft Foods for a price
5 of 12.9 billion dollars. And you see the increase in
6 sales following those acquisitions. And it continued
7 to expand in both alcoholic beverages and food
8 throughout the 1990s as well, as shown by the
9 illustration here.

10 Q. And today what are the major business segments
11 of Philip Morris, the parent company?

12 A. The major business segments are tobacco, food,
13 and alcoholic beverages.

14 Q. And again, which segment came first?

15 A. The tobacco segment came first. And that was
16 the segment that fueled the expansion into the other
17 areas.

18 Q. Can we turn to another company, R. J. Reynolds.
19 Would you briefly describe the diversification of
20 RJR.

21 A. RJR diversified from cigarettes and from tobacco
22 into the food industry in 1985. It acquired Nabisco.
23 For example, Nabisco is well known for Oreo cooking,
24 and that was its major expansion beyond tobacco,
25 based upon the tobacco profits.

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1 Q. Where did Philip Morris and RJR, the two
2 companies you've just been talking about, stand in
3 terms of U.S. market share of the tobacco market?

4 A. They are number one and two in the industry.

5 Philip Morris commands about a 50 percent market
6 share. RJR's market share is about 25 percent. The
7 two combined have a 75 market share of the industry
8 today.

9 Q. And can you briefly describe the corporate
10 structure of the other U.S. Tobacco companies.

11 A. Sure. Let's start with Brown & Williamson.
12 Brown & Williamson, as I previously mentioned, was
13 acquired by a predecessor to B.A.T back in the 1920s,
14 so Brown & Williamson is owned by B.A.T Industries
15 and that is headquartered in the U.K.

16 American Tobacco was previously part of American
17 Brands, but it, too, was acquired by Brown &
18 Williamson and B.A.T in late 1994, so its parent
19 company is B.A.T Industries as well.

20 You then have Liggett, and Liggett is owned by
21 the Brooke Group, a publicly traded company.

22 Lorillard is owned by Loews, and Loews is also a
23 publicly traded company here in the United States.

24 We've already talked about Philip Morris and
25 RJR.

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1 Q. Would you turn back to Exhibit 24305, and page
2 five of that.

3 A. All right.
4 Q. And can you describe this chart starting with
5 the top half, "Global Consolidated Operations?"
6 A. This is a summary of the tobacco companies and
7 their parent companies for the years 1954 to 1996,
8 identifying both revenues and operating profits for
9 them. And the upper portion deals with global
10 consolidated operations, and that would be the
11 worldwide operations in everything, both tobacco and
12 non-tobacco, for those 42 years.
13 Q. And the actual company names that are on the
14 chart, are those the names of the tobacco
15 subsidiaries or the parent corporations?
16 A. These identify the names of the individual
17 tobacco companies. What you'll find is that through
18 time these companies have changed their names, and
19 you also will find that the individual tobacco
20 companies, their names are very similar to their
21 parent company names. Quick example is Philip
22 Morris. The individual tobacco company, its name is
23 Philip Morris Inc., but the parent company, its name
24 is Philip Morris Companies, Inc. So they're very
25 similar.

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1 Q. But for the global consolidated operations as
2 reflected in this chart, this represents which
3 entities?
4 A. This represents the global consolidated
5 operations of the parent companies.
6 Q. And looking at the left-hand column under
7 "Global Consolidated Operations" for revenues, what
8 are revenues?
9 A. Revenues are sales.
10 Q. And what's the significance of revenues in a
11 financial analysis?
12 A. Well without revenues you have no profits, so
13 revenues are a key determination of profitability.
14 And also, as a result of that, they are a critical
15 consideration in the context of financial condition
16 and in an analysis of financial condition.
17 Q. Where did you obtain the information for the
18 global consolidated revenues for this chart?
19 A. Well this information came out of the annual
20 reports to their public shareholders and their
21 filings with the Securities and Exchange Commission.
22 Q. What sort of calculation did you perform in
23 arriving at the total revenues listed on the chart?
24 A. Once you identify the information out of those
25 reports, you then add up the numbers.

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1 Q. Was there any information that was missing to
2 you when you were putting together this chart?
3 A. In putting together these charts, or both --
4 both of these charts, what you have is that there
5 were -- there were gaps in B.A.T where the company
6 did not report its revenues for more than a decade.
7 With respect to Lorillard, there was missing

8 information on the tobacco segment for several years.
9 And with respect to Brown & Williamson, there was
10 also some missing information for several years.
11 Q. And what assumption, if any, did you make to
12 account for that missing information?
13 A. If there was information missing for a
14 particular year, we would basically assume that there
15 were no revenues for that year and there were no
16 profits for that year. If it was missing, it was
17 treated as if it was zero.
18 Q. And would that assumption overstate or
19 understate the total revenues and profits?
20 A. It would understate the total revenues and
21 profits.
22 Q. In looking at the total revenues for global
23 consolidated operations, can you tell us what the
24 aggregate is for the parent companies of the U.S.
25 tobacco companies?

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1 A. The global consolidated revenues for all the
2 operations worldwide aggregated 1,928,768,000,000
3 dollars for the years 1964 to 1996.
4 Q. And moving, still on the top part of that chart,
5 to the right-hand column, operating profits, what
6 does that represent?
7 A. That represents their profits from business
8 operations. That basically is revenues less business
9 expenses. It's the profit they had left over from --
10 or the profit they generate from running their
11 businesses worldwide.
12 Q. And where did you obtain the information for
13 global consolidated operating profits?
14 A. This comes out of the annual reports and the SEC
15 filings.
16 Q. What sort of calculation did you form in
17 arriving at these totals?
18 A. Again, after identifying the information --
19 or -- or the -- yes, the information out of the
20 documents provided, it's again a matter of adding up
21 those numbers.
22 Q. How did you define "operating profits?"
23 A. We defined operating profits as the companies
24 defined operating profits, basically the profits from
25 running their businesses.

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1 Q. And would that be before income tax and interest
2 or after income tax and interest, as reflected by the
3 companies and on this chart?
4 A. Operating profits were identified before
5 corporate income taxes and before interest expense.
6 Q. And what is net income as opposed to operating
7 profit?
8 A. Net income would be operating profits less
9 interest expense less corporate income taxes.
10 Q. In looking at this chart for operating profits
11 on a global consolidated operation for the parent
12 companies, what's the total aggregate for 1954 to

13 1996?
14 A. The aggregate operating profits from global
15 consolidated operations was 242,022,000,000 dollars.
16 Q. And can we turn now to the bottom half of this
17 chart, "Global Tobacco Operations." What do these
18 numbers reflect?
19 A. These numbers reflect the revenues and profits
20 just from tobacco, but it's tobacco worldwide. It
21 would include both domestic tobacco and international
22 tobacco.
23 Q. And what was the source of information you used
24 in compiling this part of the chart?
25 A. This would come from the annual reports, the SEC
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1 filings, and discovery in this case.
2 Q. And what sort of calculations did you perform in
3 arriving at these totals?
4 A. Again, once the numbers were identified, it's a
5 matter of adding up the information.
6 Q. For global tobacco operations, can you give us
7 the aggregate total for revenues and operating
8 profits as reflected in this chart for the years 1954
9 to 1996?
10 A. The global tobacco operations or the worldwide
11 tobacco operations produced aggregate revenues of
12 995,166,000,000, or just under one trillion dollars
13 in terms of the revenue. In terms of their operating
14 profits, their aggregate operating profits for the
15 same period -- and this is just from -- this is
16 tobacco worldwide -- aggregated 167,038,000,000
17 dollars.
18 Q. Now looking at this chart, American Tobacco, you
19 said that American Tobacco was sold in late 1994?
20 A. Yes. It was sold to B.A.T.
21 Q. And does this chart include American Brands, the
22 former parent company after 1994?
23 A. It does.
24 Q. And if you took the American brand numbers out
25 from after 1994, how would those numbers change?

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1 A. All right. On the upper portion of the page,
2 you see American Tobacco, those revenues would be 22
3 billion dollars lower, and the operating profits
4 would be two billion dollars lower.
5 With respect to the tobacco operations, the
6 global tobacco operations, the lower portion of the
7 page, American Tobacco's revenues would be some 13
8 billion dollars lower and their operating profits
9 would be one billion dollars lower.
10 Q. Will you turn to the next page of this exhibit,
11 page six, please.
12 A. Okay.
13 Q. And can you tell us what this chart represents.
14 A. Well this is the aggregate of revenue and -- and
15 profit information for the same period for the
16 tobacco industry just in the United States.
17 Q. And what was the main source of information for

18 this analysis?
19 A. This would come from the annual reports, the SEC
20 filings, and discovery in this case.
21 Q. Did the annual reports and SEC filings break out
22 domestic from global tobacco operations?
23 A. Once segment reporting started in the 1970s,
24 yes, they did. Prior to then they did not.
25 Q. And how did you account for domestic tobacco

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1 operations for the years prior to the time when the
2 information on the international sales and domestic
3 sales was not broken out? And why don't we start
4 with Philip Morris and Brown & Williamson.
5 A. Okay. Philip Morris provided us with a summary
6 in the discovery process identifying their domestic
7 revenues and profitability by year going all the way
8 back.

9 Brown & Williamson provided us with a summary as
10 well, breaking out their revenues globally and their
11 revenues domestically, and then they also provided
12 operating profit information of -- globally, not
13 domestically, so I had to do an additional
14 calculation to calculate the domestic profit.

15 Q. And did the other companies provide the same
16 sort of breakout of information from their domestic
17 U.S. operations and their international operations in
18 discovery?

19 A. They did not.

20 Q. How did you allocate the domestic revenues
21 versus the international revenues for those
22 companies?

23 A. Well for the years that they reported on a
24 segment basis, you would take it as reported, but for
25 those years where they did not, we would then

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1 allocate that information of those years to the
2 domestic operation.

3 Q. And what was the basis of making that
4 allocation?

5 A. Taking a look at the segment information as well
6 as the summaries provided of the total 167 billion
7 dollars of global profits, we could actually identify
8 and account for 157 of that 167, so there was a gap
9 of 10; just under -- just under six percent. And in
10 going back and looking at the information and looking
11 at, once they did segment report, how much of it was
12 international versus how much of it was domestic, we
13 could make the calculation confirming the
14 reasonableness of our judgment to allocate that to
15 domestic.

16 Q. And when you say there was a gap of 10, 10 what?

17 A. There was 10 billion dollars out of 167 billion
18 dollars; it was just under six percent of the total.

19 Q. And have you done any calculations to determine
20 how much this allocation could overstate, if at all,
21 the domestic revenues and profits?

22 A. Yes, we did such a calculation. And in looking

23 back at the information that was reported and working
24 through the calculation, it was our estimate that if
25 there was an overstatement, it would be no more than
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1 1.75 percent.
2 Q. And was that disclosed to the defendants in your
3 reports in this case?
4 A. Yes, it was. It was in the exhibit volume.
5 Q. Would you run through the numbers on this chart
6 for domestic tobacco operations, first giving us the
7 aggregate domestic tobacco revenues for 1954 to 1996.
8 A. The aggregate revenues in the United States from
9 tobacco aggregated 463,238,000,000 dollars.
10 Q. And can you take us through the operating
11 profits by company as reflected on this chart.
12 A. Sure. On the lower portion of the page,
13 American Tobacco, looking at their operating profits
14 on the right-hand side, were 10,200,000,000; for
15 Brown & Williamson, 10,222,000,000; Liggett aggregate
16 operating profits were 1,870,000,000; for Lorillard,
17 9,996,000,000; for Philip Morris it was
18 52,186,000,000; and for Reynolds, it was
19 30,430,000,000 dollars.
20 Q. And what is the aggregate for the U.S. Tobacco
21 operations, operating profits from 1954 to 1996?
22 A. The aggregate operating profits were
23 114,904,000,000 dollars.
24 Q. Would you turn to Exhibit 26127.
25 A. All right.

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1 Q. Can you tell us generally what this chart
2 represents.
3 A. This is a similar summary, but for 1996 only,
4 identifying the companies' global consolidated
5 operating profits, global tobacco operating profits
6 and domestic tobacco operating profits, but just for
7 one year.
8 Q. And where did the information in this chart come
9 from?
10 A. The information in this chart came from the
11 annual reports, the Securities and Exchange
12 Commission filings, and discovery provided in this
13 case.
14 Q. And is this an accurate summary of those sources
15 of information?
16 A. Yes.
17 MS. WALBURN: Your Honor, we would offer
18 Exhibit 26127 for illustrative purposes.
19 MR. BERNICK: No objection.
20 THE COURT: Court will receive 26127 for
21 illustrative purposes.
22 BY MS. WALBURN:
23 Q. Could you tell us for the year 1996 what the
24 total global consolidated operating profits was for
25 the U.S. tobacco companies and their parent

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1 corporations?
2 A. In 1996 the aggregate consolidated operating
3 profit was 21,160,000,000 dollars.
4 Q. And can you tell us for that same year, 1996,
5 what the total global tobacco operating profits were
6 for the U.S. tobacco companies and their parent
7 corporations?
8 A. Global tobacco operating profits were
9 11,773,000,000 dollars.
10 Q. And for 1996, can you tell us by company what
11 the domestic tobacco operating profits were for U.S.
12 operations.
13 A. By company.
14 Q. Please.
15 A. Brown & Williamson had 722 million dollars;
16 Liggett five million dollars; Lorillard 722 million
17 dollars; Philip Morris four billion two hundred six
18 million dollars; R. J. Reynolds, 100 -- excuse me,
19 one billion eighty-four million dollars.
20 Q. And there's a dash and a line for American
21 Tobacco?
22 A. Yes. At that time American Tobacco had become
23 part of B.A.T.
24 Q. And what is the aggregate total of operating
25 profits for the U.S. Tobacco industry from U.S.

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1 operations in the year 1996?
2 A. U.S. operations only, 1996 operating profits,
3 6,739,000,000 dollars.
4 Q. And again you relied on this chart for
5 information including information in the 1996 annual
6 reports and securities filings?
7 A. Yes.
8 MS. WALBURN: Your Honor, at this time the
9 Philip Morris and RJR 1996 annual reports are already
10 in evidence, and we would move the admission into
11 evidence of the following exhibits with 1996
12 financial information: Exhibit 20157, which is the
13 B.A.T Industries 1996 annual review, Exhibit 20147,
14 which is the Loews Corporation Form 10-K for 1996,
15 and Exhibit 20145, which is the Brooke Group Form
16 10-K for 1996.
17 MR. BERNICK: No objection.
18 THE COURT: Court will receive Exhibits
19 20157, 20147, 20145.
20 BY MS. WALBURN:
21 Q. Now did you also --
22 Did you also do an analysis of revenues and
23 profits realized by the tobacco companies from sales
24 in the state of Minnesota?
25 A. I did.

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1 Q. Would you turn in Exhibit 24305 to page seven.
2 And does this reflect your analysis for the Minnesota
3 market?

4 A. Yes.
5 Q. Were the tobacco companies asked to provide
6 information on Minnesota revenues and profits in
7 discovery in this case?
8 A. They were.
9 Q. And did the tobacco companies provide that
10 information on the Minnesota market?
11 A. They did not. Apparently it was not available.
12 Q. How did you calculate the revenues and operating
13 profits which are summarized on this chart?
14 A. I began with information provided in terms of
15 the number of packs sold in the state of Minnesota,
16 number of packages of cigarettes sold by year, as
17 well as the price per pack, and if you take the
18 number of packs sold times the price per pack, you
19 will have the total retail sales for the state of
20 Minnesota.
21 However, the manufacturers do not receive that
22 amount, they receive something less than that. And
23 we had a Philip Morris document that showed us that
24 the difference between retail sales and manufacturer
25 sales was around 56 percent for the years 1980

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1 through 1989, going year by year. That difference is
2 what I'll call the wholesale margin. So for every
3 dollar of retail sales for those years, the
4 manufacturers received on average some 56 percent.
5 With that calculation, we're able to identify
6 manufacturer sales in the aggregate in the state of
7 Minnesota.

8 The question then becomes how do we allocate
9 manufacturer sales by company? From the Maxwell
10 reports we know what their market share is by
11 company. We can identify, if someone has 50 percent
12 of the market nationally, we can identify what their
13 share would be making that same assumption for the
14 state of Minnesota. So we would go from total retail
15 sales, adjusting for the wholesale margin, down to
16 total manufacturer sales, and with market-share
17 information, sales by manufacturer.

18 From the information contained in the annual
19 reports and the SEC filings, we knew what the
20 manufacturer's operating profit margin was or
21 operating profits were by year, by company by year,
22 and so once we had manufacturer sales, we were able
23 to identify manufacturer profits in the state of
24 Minnesota.

25 So as we worked down, again, from the retail

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1 level, taking the number of packs times the price per
2 pack, adjusting for the wholesale margin, getting the
3 total manufacturer sales, manufacturer sales by
4 client, by -- by company, profits by company for
5 every single year 1954 to 1996, you can add it up.
6 About 10,000 calculations later you can identify the
7 Minnesota profits for 1954 to 1996, and the result of
8 that is what's on this chart.

9 Q. And did you use any numbers from the Minnesota
10 Department of Revenue in performing this calculation?
11 A. Yes. There were a couple of years where
12 information was not available from The Tobacco
13 Institute, and that was one of our primary sources of
14 information. We obtained the missing information on
15 the number of packages sold in the state of
16 Minnesota, cigarette packages sold in the state of
17 Minnesota for those missing years. There were three
18 years.
19 Q. And looking at this chart, can you give us the
20 total aggregate of all of the U.S. tobacco
21 manufacturers for revenues in the state of Minnesota
22 from 1954 to 1996.
23 A. The aggregate revenues for '54 to '96 for all
24 these companies in the state of Minnesota was
25 7,430,922,000 dollars.

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1 Q. And moving to the right-hand column, operating
2 profits by company, can you tell us what the
3 operating profits have been from 1954 to 1996?
4 A. Yes. American Tobacco's operating profits for
5 that period were 146,777,000 dollars; Brown &
6 Williamson, 173,950,000 dollars; Lorillard -- I'm
7 sorry, Liggett, 26,470,000 dollars; Lorillard,
8 147,228,000 dollars; Philip Morris, 801,055,000
9 dollars; and R. J. Reynolds, 555,893,000 dollars.
10 Q. And what is the total amount of operating
11 profits earned by the U.S. tobacco manufacturers in
12 Minnesota for the years 1954 to 1996?
13 A. The aggregate operating profits were
14 1,851,373,000 dollars.
15 Q. Did you perform any cross-checks of these
16 numbers?
17 A. I did.
18 Q. Would you turn to page 18 of this exhibit. And
19 can you explain this chart.
20 A. Yes. This chart is in three components, and
21 what this chart will do is we are going to identify
22 the Minnesota share of profits, and we're going to
23 compare that to the Minnesota share of revenues and
24 dollars, and we're going to compare that to the
25 Minnesota share of actual number of cigarettes.

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1 Now let's start in the bottom box of this chart.
2 What you see in that box on the left-hand side, it
3 says "Calculated Minnesota Profits," it's the second
4 line in the box, and it shows the number we've just
5 been talking about, the one billion eight hundred
6 fifty-one million dollars. Those are profits for the
7 state of Minnesota. Throughout the entire nation the
8 profits from my previous calculations identifying
9 company by company what they made in the United
10 States from their annual reports and SEC filings
11 aggregated 114,903,806,000 dollars. So if you look
12 at Minnesota relative to the nation, Minnesota has a
13 1.61 share of profits nationally.

14 Now let's compare their share based upon
15 revenues and we'll also compare their share based
16 upon numbers of cigarettes. So let's move to the top
17 of the chart and we'll look at the revenues. The
18 second line says "Minnesota Retail Revenue,"
19 14,188,896,000 dollars. That was calculated taking
20 the number of packs -- cigarette packs sold in
21 Minnesota times the average price per pack for those
22 cigarettes sold in Minnesota. So we get the retail
23 sales every year, and we do that for every year from
24 1954 to 1996, and that's how we get Minnesota retail
25 revenues of 14,188,000,000.

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1 You can do the same thing for the entire United
2 States. The tobacco burden reports publish the
3 number of packs sold throughout the entire United
4 States. They also publish the average price per
5 pack. So if you do the same calculation, the number
6 of packs times the price per pack, you will get total
7 retail sales by year, you go every year 1954 to 1996
8 and it will aggregate 856 billion dollars,
9 582,664,000. Well based upon retail sales, the share
10 of Minnesota in terms of retail sales is 1.65
11 percent.

12 Now let's look at the number of cigarettes sold.
13 This is also public information. If you work through
14 the public documents, you will see that within the
15 state of Minnesota over the same period, going year
16 by year by year, that there were actually 348 billion
17 cigarettes sold. Working through that same
18 information on a national basis, and it is published
19 on a national basis, the total number of cigarettes
20 sold throughout the United States in the same period
21 was 22,631,000,000,000. Well if we examine the share
22 of Minnesota relative to the total market based upon
23 that, Minnesota's share is 1.54 percent.

24 So in terms of our overall analysis, we were
25 able to identify that our calculations resulted in

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1 Minnesota's share of profit at 1.61 percent, dead
2 center between Minnesota's share of retail sales at
3 1.65 percent, up on the top, and Minnesota's share of
4 number of cigarettes at 1.54 percent. So this
5 cross-check confirms the accuracy of our Minnesota
6 profit analysis.

7 Q. Would you turn in Exhibit 24305 that you have in
8 front of you to page 13, please. Now is this chart
9 back to the U.S. operations of the tobacco companies?

10 A. Yes.

11 Q. And can you -- can you describe this chart for
12 us, please.

13 A. This chart identifies the revenues and profits
14 for the tobacco industry domestically. The left-hand
15 side of the chart identifies the revenues by decades,
16 going decade by decade, you see the aggregate
17 domestic tobacco revenues, and then on the right-hand
18 side of the chart you will see the profits for the

19 same time period going decade by decade, and this is
20 just domestic profits.
21 Q. Can you take us through the numbers for domestic
22 tobacco operating profits by decades.
23 A. Sure. Starting out on the left-hand side of the
24 chart, you see that for the years '54 to '59, not
25 quite a full decade, aggregate operating profits

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1 domestically were 2.5 billion dollars. As you move
2 to the full decade of the '60s, aggregate operating
3 profits were 6.5 billion dollars. For the next full
4 decade they more than doubled, they go to 13.4
5 billion dollars. For the decade of the '80s they
6 tripled, going to 44.1 billion dollars. And then we
7 have the first seven years, '90 to '96, for the final
8 decade where they're up again to 48.5 billion
9 dollars. The aggregate would be 114.9 billion
10 dollars.

11 Q. And how, if at all, does this historical trend
12 relate to the financial condition of the tobacco
13 companies?

14 A. At the heart of financial condition is
15 profitability, and what you have here is consistent,
16 stable, growing profitability, and that will lead to
17 a strong financial condition.

18 Q. Would you turn to the next page, page 14.

19 A. Okay.

20 Q. Can you describe this chart, please.

21 A. Well this identifies the profit margin, this is
22 the profitability measure for these companies for the
23 same time period. And what I mean by "profit margin"
24 here -- now let's look at the far right-hand chart
25 where you go 29.9 percent. What that means is for

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1 every dollar of sales that these companies
2 generate -- excuse me, for every thousand dollars of
3 sales, they will have 299 dollars of operating
4 profits. And what you see here is that operating
5 profits have increased as a percentage of sales,
6 they're taking up a growing slice of the growing pie.
7 They've increased from the '50s at 12 percent to the
8 '90s at just under 30 percent.

9 Q. And again, this represents the entire U.S.
10 tobacco industry?

11 A. It does.

12 Q. And how, if at all, does this relate to the
13 financial condition of the U.S. tobacco industry?

14 A. What you have is not only growing profits on an
15 absolute sense but growing profits on a relative
16 sense because they have improving margins, improving
17 relative measure of profitability. What you see in
18 the early years, there were 120 dollars of profits
19 for every thousand dollars of sales, and the later
20 years almost 300 dollars of profits for every
21 thousand dollars of sales, so they're becoming more
22 profitable on a relative basis. And what you have,
23 therefore, is this improving and growing

24 profitability that strengthens financial conditions,
25 it enhances their ability to borrow money, it
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1 enhances their ability to repay money, it enhances
2 the valuation of their firms.
3 Q. And do different tobacco companies have
4 different operating profit margins over time?
5 A. Yes.
6 Q. Who has the highest operating profit margin
7 today?
8 A. Looking at the different companies, you will see
9 that Philip Morris has the greatest profits and the
10 largest profit margin. It is also the largest
11 company with the largest market share.
12 Q. And how would that information on Philip Morris,
13 if at all, impact this composite chart for all the
14 tobacco companies?
15 A. It would significantly influence it. When
16 you've got the largest company with a 50 percent
17 share and the biggest margin, it will influence this
18 chart.
19 Q. Would you turn to Exhibit 20177A.
20 A. Okay.
21 Q. And is this an exhibit that was also prepared
22 under your supervision and direction?
23 A. Yes, it is.
24 Q. Could you generally describe the contents of
25 this exhibit.

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1 A. This is a summary of the advertising expenses,
2 the R&D expenses, the youth prevention expenses
3 provided by the defendant tobacco companies in
4 answers to interrogatories in this case.
5 Q. And were there years for which no information
6 was provided by the tobacco companies in the
7 discovery information provided in this case?
8 A. Yes.
9 Q. And what did you do for those years of
10 information?
11 A. In those years where there was no information
12 provided, we would treat it as zero, as if they
13 didn't make such an expenditure.
14 Q. And did you recently amend this summary report?
15 A. Yes, we did.
16 Q. And why was that?
17 A. We found some errors in connection with the
18 Philip Morris numbers, and we also found a single
19 error in connection with the American Tobacco
20 numbers.
21 Q. And were those errors disclosed to the
22 defendants?
23 A. Yes.
24 Q. What is the difference in the calculations that
25 those errors made in your report?

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1 A. With respect to Philip Morris it is less than
2 two percent, and with respect to American Tobacco
3 that was also less than two percent.

4 Q. And there are certain pie charts in this report
5 that compare different items of expenditures. Did
6 these changes affect the pie charts?

7 A. What you find in looking at the pie charts is
8 that the numbers identified within the box but
9 outside of the round pie chart did change, but the
10 relative proportions within the pie chart itself of
11 one classification to another did not change, the
12 relative proportions remained the same.

13 Q. And does your analysis as reflected in this
14 amended summary, Exhibit 20177A, accurately summarize
15 the discovery provided by the defendants in this
16 case?

17 A. Yes.

18 MS. WALBURN: Your Honor, we would offer
19 Exhibit 20177A under Rule 1006.

20 MR. BERNICK: No objection, Your Honor.

21 THE COURT: Court will receive 20177A.

22 BY MS. WALBURN:

23 Q. Now Mr. Much, are you offering any opinions on
24 the significance of these summaries of spending for
25 advertising and promotion, research and development,

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1 and youth prevention programs?

2 A. No, I am not.

3 Q. Your opinions are the summaries?

4 A. My opinions are the numbers contained in this
5 report, the summaries.

6 Q. Can we look first at youth prevention
7 expenditures, and would you turn to Exhibit 26121.
8 Is this the question the defendants answered relating
9 to their spending for youth prevention programs?

10 A. Yes.

11 MS. WALBURN: Your Honor, we would offer
12 Exhibit 26121 for illustrative purposes.

13 MR. BERNICK: No objection.

14 THE COURT: Court will receive 26121 for
15 illustrative purposes.

16 BY MS. WALBURN:

17 Q. And this is interrogatory or question number 20
18 that states, "Identify by year, from 1952 to the
19 present, the total amount of funds spent by your
20 company in the United States to prevent or discourage
21 smoking by persons age 18 and under."

22 With this information, how did you arrive at a
23 total for each defendant?

24 A. Based upon the information each company
25 provided, we added up the numbers.

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1 Q. Can we turn to advertising, marketing and
2 promotion expenditures and Exhibit 26122.

3 A. Okay.

4 Q. And is this the question the defendants answered

5 relating to spending on advertising, marketing and
6 promotion expenditures?
7 A. Yes.
8 MS. WALBURN: Your Honor, we would offer
9 Exhibit 26122 for illustrative purposes.
10 MR. BERNICK: No objection.
11 THE COURT: Court will receive 26122 for
12 illustrative purposes.
13 BY MS. WALBURN:
14 Q. And this states interrogatory or question number
15 21, "Identify by each year, for as far back as your
16 company has records to the present, the total amount
17 of funds spent by your company in the United States
18 on the advertising, marketing or promotion of
19 cigarettes."
20 Did you receive information from the defendants
21 pursuant to this question?
22 A. Yes.
23 Q. And how did you arrive at the total amount of
24 money spent by each defendant for advertising,
25 marketing and promotion?

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1 A. First of all, we added up all the information
2 provided by each company. However, we had to do an
3 additional calculation with respect to RJR where they
4 deducted from this answer certain information
5 provided to the FTC, and so we made an adjustment for
6 that.
7 Q. And what is the total amount spent by the U.S.
8 tobacco manufacturers for advertising, marketing and
9 promotion from 1954 to 1996?
10 A. It was 47 billion dollars.
11 Q. Did you also report in this summary on
12 contributions to The Council for Tobacco Research?
13 A. Yes.
14 Q. Would you turn to Exhibit 26123. And are these
15 the questions that CTR answered relating to spending
16 for CTR?
17 A. Yes.

18 MS. WALBURN: Your Honor, we would offer
19 Exhibit 26123 for illustrative purposes.
20 MR. BERNICK: No objection.
21 THE COURT: The court will receive Exhibit
22 26123 for illustrative purposes.
23 BY MS. WALBURN:
24 Q. This states interrogatory 31 for CTR, "State,
25 for each year since 1954, the total budget for The

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1 Council for Tobacco Research and the source of all
2 funds." And for interrogatory 32, "State, for each
3 year since 1954, the total budget for The Council for
4 Tobacco Research general fund, for Special Projects
5 and for the Literature Retrieval Division, and the
6 source of all funds for each of these three
7 categories."
8 Did you receive information from the defendants
9 pursuant to these interrogatories?

10 A. I did.
11 Q. And how did you arrive at the total spending for
12 CTR?
13 A. Again, added up the numbers based upon the
14 information provided.
15 Q. And what was the combined industry contributions
16 to CTR from 1954 to 1994?
17 A. Three hundred twenty-six million dollars.
18 Q. And did you also report in this summary exhibit
19 on certain research and development expenditures from
20 the defendants?
21 A. Yes.
22 Q. Would you turn to Exhibit 26124.
23 A. Okay.
24 Q. And is this the question that the defendants
25 answered relating to spending on research and

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1 development?

2 A. It is.

3 MS. WALBURN: Your Honor, we would offer
4 Exhibit 26124 for illustrative purposes.

5 MR. BERNICK: No objection, Your Honor.

6 THE COURT: Court will receive Exhibit
7 26124 for illustrative purposes.

8 BY MS. WALBURN:

9 Q. This states interrogatory 18, "Identify by year,
10 from 1952 to the present, the total amount of funds
11 spent by your company on research relating to smoking
12 and health (excluding funds spent on the Council for
13 Tobacco Research)."

14 Now did every company in response report on
15 research and development for smoking and health in
16 the same way?

17 A. No. What we found is that they reported on
18 total research expenditures, not just those research
19 expenditures relating to smoking and health.

20 Q. And did you disclose in your report what those
21 research and expenditure sums were devoted to in
22 accordance with how those sources of funds were
23 identified by the tobacco companies?

24 A. Yes. We identified in the report not only the
25 amounts but also identified in the footnotes of our

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1 report the definitions that each company used.

2 Q. And how did you arrive in your report at the
3 total spending for research and development by the
4 tobacco companies?

5 A. We added up the numbers provided to us.

6 Q. And what was the total amount spent for research
7 and development by the domestic tobacco manufacturers
8 from 1954 to 1994?

9 A. Approximately 2.7 billion dollars.

10 Q. And finally, do you also in this report do some
11 comparisons of the results of your calculations of
12 one category of spending as compared to another
13 category of spending?

14 A. Yes, I do.

15 Q. And did you report some of those comparisons in
16 charts and pie charts?
17 A. Yes.
18 Q. Does Exhibit 20177A accurately reflect those
19 comparisons?
20 A. Yes, it does.
21 Q. Can we take a look at one of your pie charts in
22 that exhibit, tab 1C, and about 10 pages in. It's an
23 RJR chart.
24 A. Okay.
25 Q. And it's labeled R. J. Reynolds research and
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1 development expenditures and contributions to CTR to
2 estimated advertising, marketing and promotion
3 expenditures, 1964 to 1994.
4 A. I have it.
5 Q. And is this an example of how you presented some
6 of the summaries in graph form in this exhibit?
7 A. Yes.
8 MS. WALBURN: Thank you, I have no further
9 questions.
10 MR. BERNICK: Your Honor, it will take me
11 a few minutes to get set up. We can put a monitor on
12 the stand, do a couple other things.
13 THE COURT: All right. Let's take a short
14 recess.
15 MR. BERNICK: Thank you.
16 THE CLERK: Court stands in recess.
17 (Recess taken.)
18 THE CLERK: All rise. Court is again in
19 session.
20 (Jury enters the courtroom.)
21 THE CLERK: Please be seated.
22 THE COURT: Counsel.
23 MR. BERNICK: Thank you, Your Honor.
24 BY MR. BERNICK:
25 Q. Good afternoon, Mr. Much.

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1 A. Good afternoon.
2 Q. My name is David Bernick and I represent Brown &
3 Williamson. I'll be doing the cross-examination this
4 afternoon.
5 MR. BERNICK: Good afternoon, ladies and
6 gentlemen.
7 (Collective "Good afternoon.")
8 Q. Mr. Much, I want to go back to when you first
9 became involved in this matter. Can you tell us when
10 you were first contacted in connection with doing
11 work on this case?
12 A. It was late 1996.
13 Q. Can you give me October, November?
14 A. It would be late December when I was first
15 contacted.
16 Q. I want to focus on the period of time before you
17 were first contacted to work on this case. Is it
18 true that in the area of financial services or
19 financial analysis, that there are people who follow

20 given industries and make regular reports on the
21 financial condition of those industries?
22 A. There are people in security analysis that will
23 follow given industries, and they will provide
24 reports typically on either the -- what I'll call the
25 equity side or the debt side, and they will provide
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1 investment research reports, for example, giving
2 stock recommendations to buy, to hold -- hold or to
3 sell. Or there are also some firms that specialize
4 just looking at the debt of companies.
5 Q. Okay. Is there a word -- are they --
6 Are they financial analysts, are they securities
7 analysts? What's the word that you would use to
8 refer to those folks?
9 A. There are a number of terms. The overall
10 umbrella term I would call is a financial analyst.
11 Within that you have security analysts, equity
12 analysts, investment analysts and credit analysts.
13 Q. Have you ever held yourself out as a financial
14 analyst in the area of the tobacco industry prior to
15 December of 1996?
16 A. No.
17 Q. Have you ever prepared or audited a regularly-
18 issued financial statement for a tobacco company?
19 A. No.
20 Q. Are there people whose business it is to do
21 that?
22 A. You in your question identified a couple of
23 different areas. I think one was audited a
24 statement, the other one was prepared a report.
25 There are auditors -- for example, I mentioned
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1 earlier the Arthur Andersen firm -- who would audit
2 financial statements in connection with published
3 materials of the tobacco companies, and they would be
4 assigned to a team where they may be specialized in
5 tobacco or may not be specialized in tobacco, or they
6 may be in a variety of different specialties.
7 Q. Have you ever --
8 A. That's the first part to your question.
9 I believe the second part to your question was
10 publishing a research report, and no, I have not done
11 that.
12 Q. Have you ever written or published any kind of
13 articles regarding the tobacco industry?
14 A. No.
15 Q. Have you ever done any work at all on tobacco
16 advertising prior to your work on this case?
17 A. No.
18 Q. And I listened to you carefully as you described
19 the different valuation projects that you had done in
20 explaining your background to the jury. Do you
21 recall that?
22 A. Yes.
23 Q. Am I correct that none of the valuation projects
24 that you described related specifically to tobacco;

25 true?

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1 A. Correct, none were specific in relation to
2 tobacco.

3 Q. Indeed, you have never held yourself out as
4 being an expert with regard to the tobacco business
5 specifically; true?

6 A. True.

7 Q. Okay. Now I want to turn to your discussion of
8 profitability for a few minutes this afternoon, and
9 the first thing I want to do is to try to get back up
10 on the screen -- let's see if this works, there we
11 go -- what's already in evidence, has been shown to
12 the jury is this poster here, which is Plaintiffs'
13 Exhibit 30230. Are you familiar with this chart?

14 A. I have seen this chart before. I did not
15 prepare this chart. I'm familiar with the
16 information in the chart though.

17 Q. Okay. And do we see that on this chart, the
18 chart reflects a bar for profits of 167 billion
19 dollars. Do you see that?

20 A. Yes.

21 Q. And I'm going to try to use this for a second,
22 see if I can do this right. It's this one right
23 there.

24 A. Correct.

25 Q. Okay. Now it's true, is it not, that that bar

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1 on that chart actually reflects profits that go way
2 beyond the profits that are associated with the sale
3 of tobacco products in Minnesota specifically;
4 correct?

5 A. The 167 billion dollars refers to the profits
6 from the sale of tobacco profits globally.

7 Q. Okay.

8 A. Both domestically and internationally.

9 Q. Okay. And you've told us that if we wanted to
10 know specifically the profits that have been made
11 from the sale of cigarettes here in Minnesota, that
12 we're talking about a number that you could hardly
13 draw it here, it's about 1.8 billion dollars;
14 correct?

15 A. It is just over -- it's 1.851373.

16 Q. And all the rest of this bar is profits that
17 were made on cigarettes that were sold someplace
18 else; true?

19 A. Yes.

20 Q. Okay. I want to focus now on the -- if we can
21 get that off -- focus now on the analysis that you
22 did in order to come up with that 1.8-billion-dollar
23 figure.

24 A. Okay.

25 Q. The way that I want to begin is by asking you

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1 whether the profitability report that you previously
2 referred to, Exhibit 24305, your volume one
3 profitability report, that reflects the Minnesota
4 analysis; does it not?
5 A. Yes.
6 Q. You may want to refer -- I've got that at tab
7 nine in the book that's before you right there.
8 A. Okay.
9 Q. Is that the profitability report that reflects
10 the Minnesota analysis that you've discussed?
11 A. This includes not only Minnesota, but also the
12 global analysis, the domestic analysis. So the
13 Minnesota analysis is part of this exhibit.
14 Q. Okay. Now didn't you also furnish as part of
15 your report the materials that you relied upon in
16 performing this analysis?
17 A. Yes.
18 Q. Was there a separate volume of exhibits?
19 A. Yes, there was.
20 Q. Okay. I want you to turn to tab 12 in the book,
21 and I'm going to ask you whether those are the
22 exhibits for the report that's already in evidence.
23 MS. WALBURN: Could we have the exhibit
24 number, please?
25 MR. BERNICK: Yes, it's Exhibit 24308.
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1 A. This is the exhibits volume, yes.
2 Q. And Mr. Much, am I correct that 24308, the
3 report or the volume that you have before you there,
4 contains the information that you relied upon for
5 purposes of the analysis, the results of which you've
6 already presented to this jury?
7 A. Yes.
8 MR. BERNICK: We would offer 24308, Your
9 Honor.
10 MS. WALBURN: No objection.
11 THE COURT: Court will receive 24308.
12 BY MR. BERNICK:
13 Q. I want to direct your attention within 24308 to
14 the detailed spreadsheet that you prepared in doing
15 the Minnesota analysis. If you could -- I know
16 you're familiar with that, if you could just try to
17 pick that out, and I'm going to try to get it on the
18 screen, which may be more difficult.
19 A. Okay.
20 Q. Is that the spreadsheet that gives the detailed
21 backup for the analysis that you have done?
22 A. It is one of the two spreadsheets.
23 Q. Okay. I'll try to draw, a little bit better
24 than some of my other drawings, a pack of cigarettes.
25 Doesn't have much resemblance. But I'd like to go
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1 through the analysis that you have that's on this
2 piece of paper and break out some of the information
3 that you have there.
4 If we go up to the upper portion here -- I'll
5 blow it up so people can read something on this

6 chart -- do we see, as you mentioned during your
7 direct examination, that you began in talking about
8 the price per pack of cigarettes?
9 A. Yes.
10 Q. Okay. And if we wanted to use 1994 as a year in
11 which to kind of take a snapshot of how you did the
12 analysis, and we looked further across the page,
13 would we see that the average retail price in 1994
14 for a pack of cigarettes here in Minnesota was about
15 two dollars and two cents?
16 A. Yes.
17 Q. That would be the amount of money on average
18 that would actually change hands at the point of
19 purchase; correct?
20 A. Yes.
21 Q. Okay. Now out of that two dollars and two cents
22 in 1994, a lot of things have to come before you
23 get -- finally get down to the profits that were
24 made; true?
25 A. Yes.

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1 Q. Okay. For example, isn't it true that out of
2 that two dollars and two cents in 1994 -- I'll try to
3 draw this just about right -- there was about 48
4 cents in Minnesota excise tax; correct?
5 A. I have to go back and look at the Tobacco Burden
6 Report.
7 Q. The tobacco burden report's another document
8 that you had reference to in the course of your work;
9 correct?
10 A. Yes.
11 Q. And that's -- the tobacco --
12 The Tobacco Burden Report was put out by The
13 Tobacco Institute; right?
14 A. That's right.
15 Q. And the Tobacco Burden Report was a source of
16 information that you considered to be reliable, and
17 in fact you did rely upon in connection with your
18 work on this case; correct?
19 A. That is correct.
20 Q. Okay. If we take a look at Exhibit 24310, which
21 is at tab one in your book -- tab one in the book I
22 think is back to the beginning --
23 A. Okay.
24 Q. -- is that a copy of the Tobacco Burden Report?
25 A. It is.

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1 MR. BERNICK: We offer it, Your Honor.
2 MS. WALBURN: Your Honor, could we approach
3 the side-bar on this exhibit?
4 THE COURT: Sure.
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1 (Side-bar conference as follows:)
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(Side-bar discussion concluded.)

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THE COURT: Tomorrow, counsel.

MR. BERNICK: What?

THE COURT: I said tomorrow.

MR. BERNICK: Can we just close out this
one last issue?

THE COURT: Oh, okay. All right. Go
ahead.

BY MR. BERNICK:

Q. Mr. Much, if you wanted to go get a precise
statement for the excise tax that was assessed each
year by the state of Minnesota, or any other state
for that matter, would you consider the Tobacco
Burden Report to be a reliable source of that type of
information for this industry?

MS. WALBURN: Objection, outside the scope
of direct testimony.

THE COURT: You may answer the question.

A. I have not done an assessment of excise taxes.

Q. I understand that. But if you were to want to
get the precise information on the -- for any given
state on what the excise taxes were in any given
year, would you regard the tobacco industry Tobacco
Burden Report as a good and reliable place to go to
get that summary of what those taxes were for any
given state in any given year, if you were to go and

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1 get that information?

2 MS. WALBURN: Objection, asked and
3 answered, outside the scope of this witness's
4 expertise.

5 THE COURT: You may answer.

6 A. Again, I have not done an assessment of excise
7 taxes, I've not done a study of excise taxes. I
8 don't think I can answer that question.

9 Q. With regard to the Tobacco Burden Report, does
10 the Tobacco Burden Report contain a variety of pieces
11 of information on different aspects of the tobacco
12 industry's business?

13 A. I think the operative phrase in your question is
14 "the tobacco industry's business."

15 Q. Correct.

16 A. And it contains information, for example, on
17 price per pack, contains other information in terms
18 of numbers of packs, but as far as providing a
19 variety of information on the nature of the business,
20 I think that's an entirely different type of
21 situation, it requires an entirely different type of
22 report.

23 Q. I'll make my question more specific.

24 A. Okay.

25 Q. When it comes to information relating to sales,

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1 is the Tobacco Institute's Tobacco Burden Report, in
2 your view and in your experience, a reliable source
3 of information regarding sales of tobacco around the
4 country?

5 A. To identify sales per state, for example, you do
6 have the price per pack and you've got the number of
7 packs per state, so from that standpoint, in terms of
8 identifying retail sales per state, not manufacturer
9 sales but retail sales per state, it contains
10 information from which you can make such a
11 computation.

12 Q. And in fact when it came to sales, the first
13 place you went was to the Tobacco Burden Report
14 before you then turned in certain areas to get
15 information from the state of Minnesota itself;
16 correct?

17 A. That is correct.

18 MR. BERNICK: Okay. Your Honor, we would
19 re-offer the Tobacco Burden Report for the purposes
20 that have been articulated. The witness has
21 established its reliability for purposes of
22 developing information regarding sales, and sales
23 includes the taxes that are assessed in connection
24 with the sales process.

25 MS. WALBURN: Same objection as before,

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1 Your Honor, with respect to the entire report.

2 Certain portions, we have no objection.
3 THE COURT: Okay. The objection is
4 sustained with regard to the entire report.
5 We'll recess now and reconvene tomorrow morning.
6 THE CLERK: Court stands in recess, to
7 reconvene tomorrow morning at 9:30.
8 (Recess taken.)
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